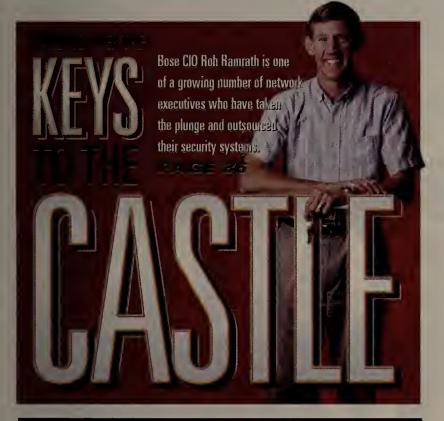
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hot at the
show in
Atlanta.
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September 3, 2001 Volume 18, Number 36

The network portal: www.nwfusion.com



Swiss Army knife of switches set to debut

BY DENI CONNOR

World+Interop

AUSTIN, TEXAS — One of the industry's well-heeled start-ups will unveil a switch at next week's Net-

2001 that can replace load-balancing, caching and streaming devices with a single box.

Surgient Networks designed its debut product, the eQuilibrium 2500, to optimize content delivery by directly transferring data from storage to users via

separate blades within the switch. Data moves from storage onto the transport blade, and passes into a router via the

or directly to a
WAN linked to a
WAN blade. The

eQ2500 also processes the TCP/IP stack in hardware, so a connected server wouldn't have to process I/O and could run applications unfettered.

The eQ2500 represents a new kind of device, one that See **Surgient**, page 57

VPN woes force shift at giant e-commerce net

BY ELLEN MESSMER AND TIM GREENE

DETROIT — After trying for five years to get lab-tested IP Security equipment to interoperate, organizers of the world's largest VPN-based e-commerce network, the ANX, are abandoning their multivendor strategy.

"Lab-based compliance with

[IP Security] does not ensure real-world interoperability," said Ford's Dennis Kirchoff, a founding father of the ANX who spoke about the VPN problems at last week's AutoTech conference in Detroit.

ANX founders Ford, General Motors and Chrysler (now DaimlerChrysler) once believed that requiring vendors to test their VPN equipment for compliance with the Internet Engineering Task Force's (IETF) IPSec standard would ensure gateway interoperability. That would, in turn, result in vendor competition and lead to lower prices and better products.

That was the hope. But it hasn't worked out that way.

See ANX, page 13

"Mere compliance with the IETF specification is not sufficient to ensure interoperability . . . and it's difficult to get multiple vendors to work together."

Erik Naugle, CTO, ANXeBusiness



Bells suit up for long-haul battle

BY MICHAEL MARTIN

Mega local carriers Verizon and SBC Communications are now offering long-distance in several states, and all four regional Bell operating companies are optimistic they will obtain so-called 271 approval to enter the long-haul market in 2002, setting the stage for cataclysmic telecom change.

Why? Where incumbent local exchange carriers (ILEC) have entered long-distance they have, in short order, stolen huge chunks of market share from the traditional players.

Broadwing Communications,

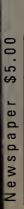
formed by Cincinnati Bell's acquisition of long-distance carrier IXC Communications, captured 65% of the long-haul business in

its region when it entered that market. "If ILECs get into longdistance they will own a lot, See **271**, page 16

Section 271 explained

Section 271 of the Telecommunications Act of 1996 contains the rules a regional Bell operating company must follow to offer long-distance in states where it is the incumbent provider. RBOCs must pass a 14-point checklist that addresses issues such as open and fair access to network elements, and access to local-loop transmission.

Read about overall FCC reform and link to Michael Powell's speech on the Telecommunications Act of 1996. www.nwfusion.com, DocFinder: 5854



SIX DANGEROUS MYTHS

ABOUT e-BUSINESS PLATFORMS.

THE WHOLE e-BUSINESS THING IS A FAD.

Nothing could be further from the truth. In times of economic

downturn, it may seem prudent to put the whole e-Business issue on the backburner. But it's not. Tough times call for speed, nimbleness and agility more than ever. The time to get smart and implement e-Business solutions for your customers is today.

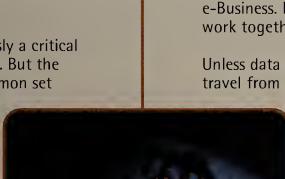


THE INTERNET CHANGES EVERYTHING.

The Internet does not change everything. It doesn't change the business rules that run your company. Or the infrastructure you've spent years building. Or the nature of your business. Or your need to generate revenues and profit.

The Internet is obviously a critical part of any e-Business. But the Internet is only a common set

of protocols for the transport of information. It's how well you manage that information that determines the success of your business.



IT'S A
ONE-BRAND WORLD.

This myth surrounds just about every significant e-Business platform discussion. Virtually every purveyor of e-Business platforms touts their version of this "one-brand" world. Their brand, of course. Big surprise.

At Sybase, we know it's just not true. Countless brands compete,

cooperate and commingle inside your company. It's laughable to pretend that any one external organization can "standardize" all the various protocols, systems, components, new technologies, languages, databases and vendor relationships that your business depends on to succeed.

Our open e-Business platform embraces diversity. Making all of this stuff work together is what our stuff is all about.

A WEBSITE IS A PORTAL. A PORTAL IS AN e-BUSINESS.

Well, not quite. A website is not a portal. And even if it was, a portal is not an e-Business.

Portals and websites along with application servers, databases, customer relationship programs, automated supply chains, an efficiently connected field force and the rest of your back office are all vital components of an e-Business. It's making them work together that's the trick.

Unless data has the ability to travel from a customer's pager to

your trusty \$390 mainframe and then back to your customer via cell phone, you may very well have a website, but you really don't have an e-Business.

Our proven e-Business platform totally delivers this end-to-end functionality. It integrates every single aspect of your business. What's more, it has the scalability to constantly integrate your new components into the mix. Like say, 10,000 brand new customers, for example. Or a new CRM app.

Just something to think about when people offer you buzzwords instead of technologies.

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Hah. Very funny. But still a popular belief for a long time. Listen: It's all pure poppycock. The real e-Business solutions deliver real-life business results. By that we mean increased revenues, reduced costs and profit to your bottom line.

At Sybase, we provide e-Business solutions among the FORTUNE 500,8 to the largest firms on Wall Street, to the biggest names in healthcare, to the world's largest computer and networking companies, and to the biggest players in Europe and Asia.

We lead the way in enterprise portal technology. We strongly dominate in enterprise wireless solutions. And we have some of the best middleware integration solutions found on our planet.

So don't throw your money around. Look for an ROI that has a sense of immediacy. Invest carefully based upon proven past performance and reasonable expectations of return.

IT'S ALL OR NOTHING.

The Big Bang Theory: You need to do all of this at once. Not at all true.

We can help you solve the problems you have today while simultaneously building a platform that can solve tomorrow's problems, tomorrow.

Implement in the way that's right for your firm. From the bottom up. Or the top down. Component by component. It's your choice.

Call 1-800-8-SYBASE or visit www.sybase.com/myths and we'll show you how. Fact, not myth.



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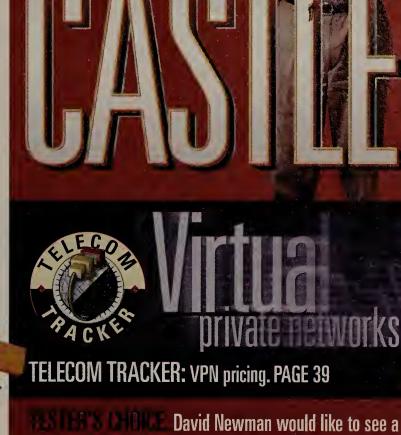
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Six ways to succeed with



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"We only want that which is given naturally to all peoples of the world, to be masters of our own fate."

--- Golda Meir



NetworkWorldFusion www.nwfusion.com

INTERACTIVE

Show planner

Going to NetWorld+Interop in Atlanta next week? Check out our N+I show planner for all the keynotes, events and sessions you won't want to miss. Download a PDA version to take with you. DocFinder: 5842



FORUMS

Talking trash over GroupWise

There's been a lot of activity in the GroupWise security forum. See readers slug it out with longtime NetWare observer Dave P. Dare you join the debate? DocFinder: 5835

Working overtime

Some readers think a compressed workweek is fine for everyone but IT — What's your take? DocFinder: 5836

Help Desk

A user needs help choosing tools for the best policy-based management system. Got any advice? DocFinder: 5837

REVIEWS

Top ISPs

It's our monthly ranking of the best ISPs

Our data comes from eTesting Labs and its Internet BenchMark division. We take the data and apply statistical analysis to rate the performance of each ISP compared to the other ISPs within the same market classification (national, regional or business-to-business ISP). Then we rank the top ISPs for the month listed. Check out the online chart that lists the top three ISPs performing above the average. DocFinder: 5838

Best Bets

Want to know the most-read articles online? What not to miss? Check out our new Best Bets on NW Fusion. DocFinder: 5741

Getting NetSmart

Accelerate your learning from the convenience of your computer. Save \$300 on any Global Knowledge online course, including management and leadership training as well as Cisco and Microsoft certifications. DocFinder: 5740

CARUSO'S CACHE

The best of the NetFlash daily newsletter

See you online

Sadly, an upcoming design change means this is the last installment of Caruso's Cache. But be sure to go online for daily network news updates, or sign up for our NetFlash newsletter to get Network World news in your in-box. See you there! DocFinder: 5857

Cogent acquires troubled broadband provider

In these troubled economic times, we have to lean on each other. Multitenant unit broadband provider Allied Riser Communications is leaning on Cogent Communications, which is buying the company. Meanwhile, SuSE Linux is reportedly leaning on IBM, Intel and others to stay afloat. DocFinder: 5848

10G bit/sec router sales up 16% last quarter

Despite reports of bandwidth gluts, sales of routers with 10-gigabit WAN connections were still rising earlier this year, according to the latest statistics from the Dell'Oro Group. DocFinder: 5849

Feds thwart Code Red mutant

As much as I would like the Code Red story to go away, it won't. After a few rounds with the Code Red worm, the Fibbies are actually working to prevent the spread of yet another variant. DocFinder: 5850

Another Breakaway Solutions CEO bows out

Application service provider Breakaway Solutions is having a hard time holding onto CEOs — the latest one lasted only a few months. With that kind of turnover, maybe the company should hire a temp. DocFinder: 5851

— Jeff Caruso, managing editor, online news

Sign up for this e-mail newsletter online. DocFinder: 3850

COLUMNISTS

Help Desk

Cisco 2501 firewall

Ron Nutter answers a reader's question: "Can I use Cisco 2501 for my application (firewall and maybe sharing ADSL)?" DocFinder: 5839

Compendium

Set to music

Fusion Executive Editor Adam Gaffin uncovers more poetry in Linux — the immortal poem "Wacka Wacka Bang Splat" set to music. DocFinder: 5840

Bleeding Edge

The Edge columnists Daniel Briere and Beth Gage ask "Can NLOS save fixed wireless?" DocFinder: 5841



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NEWS BRIEFS, SEPTEMBER 3, 2001

Code Red rebuff

The FBI says it has discovered an attempt to spread a new version of the Code Red virus and is in the process of telling the owners of about 6,000 computers that their systems have been infected. Arrest warrants have been issued in the case, which the FBI thinks will prevent those responsible for the virus from triggering denial-of-service attacks from the machines, the FBI says. The virus is a variant of the Code Red virus that takes advantage of vulnerabilities in Microsoft's Internet Information Server (IIS) in Windows 2000. The FBI says companies should install Microsoft patches that shore up IIS and keep their antivirus software updated to prevent such infections.

The bell tolls a little more quietly

The number of 'Net companies closing up shop fell slightly in August from July the fourth straight monthly decline - a sign some observers say portends the worst may be over for the beleaguered dot-com industry. According to a report from Webmergers.com — an online site that buys and sells Internet properties — 38 dot-coms were shuttered in August, down from 39 in July, 60 in June and 61 in May. The death toll so far this year is 417, and 642 since the beginning of 2000, Webmergers.com stated. Noteworthy Internet shutdowns in August included wireless ISP Metricom, construction marketplace BuildNet and two Web currency providers, Flooz.com and Beenz.com, Webmergers.com said.

Learning network security is fun

A Denver collocation and data management company is taking a new approach to educating customers about the potential pitfalls of poor security with Verado: The IT Security Game Version 2.0.The game pits system administrators against unknown intruders trying to gain access to the corporate network. It is the game player's role to stop them. Verado is calling it a fun way to learn about a serious subject. Download the free game at www.verado.com/forms/get_verado_gamc_2.html.

Cisco redux?

Former Cisco Senior Vice President Kevin Kennedy last week landed a new job as the new COO for wireless software maker Openwave. Kennedy joins former Cisco executive Don Listwin there. Listwin resigned from Cisco last August to take the helm at Openwave as part of a merger of the former Phone.com and Software.com. The resulting company changed its name to Openwave Systems. Kennedy, who led Cisco's service provider business, left as part of a recent reorganization that de-emphasized particular business segments and aligned Cisco around 11 specific technologies.

Breakaway CEO job a hot potato

Brcakaway Solutions last week announced the resignation of its CEO — yet again, when William Loftus, who took the helm of Breakaway Solutions in April, resigned. Loftus replaced Gordon Brooks, who stepped down as chairman and CEO on April 6 to pursue other interests. John Loftus, Breakaway's senior vice president of professional services, also resigned. The reasons behind the resignations were not disclosed. In addition to the resignations, the board of directors said the company is seeking to be acquired and is pursuing other strategic alternatives. The shuffling follows a string of tough times for Breakaway, which announced earlier this year that it would lay off 108 employees, close offices and take other cost-cutting measures.

Mourning MIT professor Dertouzos

Michael Dertouzos, 64, a professor at the Massachusetts Institute of Technology and director of the MIT Laboratory of Computer

Science since 1974, died last week. Dertouzos is credited with turning the Laboratory of Computer Science (LCS) into one of the largest and best-known laboratories in the world, with 400 faculty members, graduate students and research staff. Among other accomplishments, the lab was the birth-place of the RSA encryption system and became



MIT's Dertouzous was a famed thinker in the world of computer science.

the home of the World Wide Web Consortium. According to the *New York Times*, "In 1976, [Dertouzos] predicted there would be a personal computer in one of every three homes by the mid-1990s, and described the vast online information marketplace that the Internet would become in antediluvian 1980."

Laptop batteries that cross country?

The days of racing to get work done before the notebook battery runs out of juice may be over in the next few years. NEC and two Japanese government-affiliated research institutes have developed a fuel cell for use in mobile devices that could mean notebook computer battery lifetimes of several days become commonplace soon. Fuel cells create electrical energy by electrochemically reacting hydrogen and oxygen to produce water vapor and heat, without combustion. Some fuel cells require pure hydrogen as a fuel source; others can run on methane or other hydrocarbons. The new fuel cell has about 10 times the energy capacity of a similar-size high-density lithium battery, such as those used in notebook computers or portable electronic devices. NEC is hoping to commercialize the technology between 2003 and 2005.

Cisco forges ahead into unified messaging

BY PHIL HOCHMUTH

SAN JOSE — Cisco this week is expected to announce a new version of its unified messaging server with twice the end-user capacity as before, reinforcing the notion that the company intends to be a major player in the corporate messaging software arena.

The company is expected to announce that the Cisco Unity 3.0 will increase the total number of users, or "subscribers," on a Cisco Unity server to 5,000, compared with the 2,500 limit on Unity 2.46, according to product information posted on the Cisco Web site. The company would not confirm or deny the information.

The software will apparently let users set up and manage a unified voice and e-mail system by hooking into Microsoft Active Directory in a Windows/Exchange 2000 network, letting network and messaging system administration be centralized. Cisco Unity 3.0 will be available only for Win 2000, but will work in an mixed Win NT/2000 environment, according to product information. Pricing for Unity 3.0 will be the same as the previous version, starting at \$146 per seat.

While Cisco's clout with large companies may help it become a unified messaging player, analysts say, the network hardware giant will have to fine-tune its sales engine to pitch mission-critical applications such as messaging to big corporations.

Cisco's Unity product is part of its AVVID (architecture for voice, video and integrated data) IP telephony product family, which includes Cisco's CallManager server software, its Media Convergence Server (MCS) — a dedicated server running CallManager on top of Windows NT — as well as IP phones, voice-over-IP and IP video gateways and voice-over-IP-enabled routers and switches.

Unity competes with unified messaging wares such as Nortel's CallPilot, and Avaya's (for-



"[Unified messaging] will allow our employees, regardless of where they are, to deal with all kinds of messages from one system."

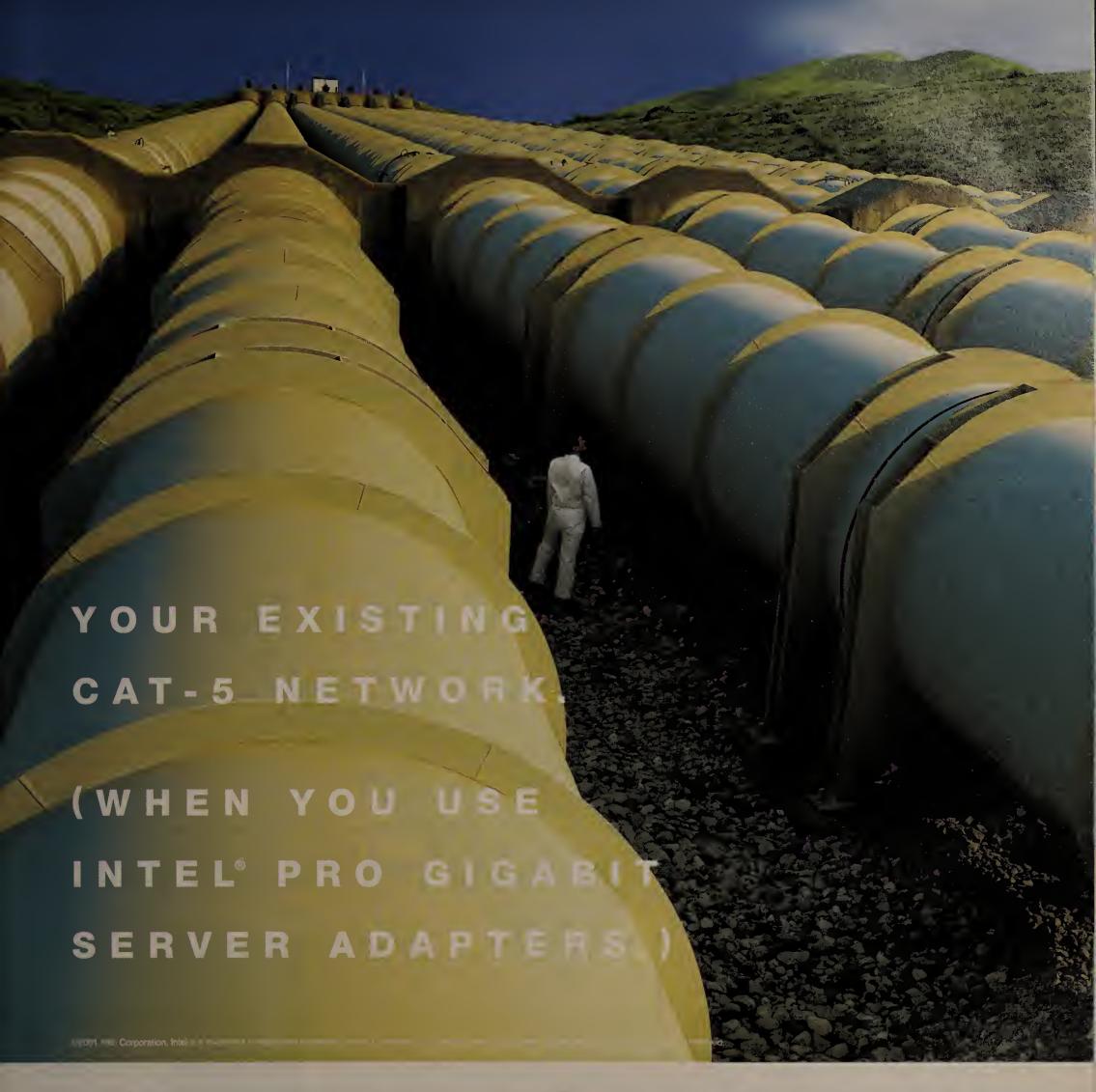
Rock Regan, CIO, state of Connecticut

merly Lucent's) Unified Messenger. Avaya and Nortel have offered unified messaging products for their circuitswitched PBX voice mail systems for several years, and both companies this year have integrated the software with their IP-based call server offerings. Unlike its competitors, Cisco has no PBX customer base to tap for its Unity product, but plans to push unified messaging and IP telephony into corporations looking to replace their aging PBXs. Unity can also be integrated with PBXs.

A Unity server provides voice mail services by connecting over an IP network to an MCS, or cluster of MCSes, running CallManager 3.0. Unity 3.0 also can provide unified voice mail and e-mail to multiple MCS clusters.

The Unity software, which runs on a Win 2000 server, interfaces with an Exchange 2000 server, letting voice mails — saved on the Unity server as .wav sound files — appear in an end user's mailbox. Users can then listen to voice mails on a PC. Users can view voice and text messages through a Microsoft Outlook application, or see their voice mails in a list on a Cisco IP phone's display

See Cisco, page 57



Gigabit capability on your current Cat-5 network isn't a pipe dream. With Intel® PRO/1000 T Server Adapters you can increase your bandwidth capacity by a rnassive ten times. These gigabit adapters work with your existing 10/100Mbps network and will seamlessly ramp up to 1000Mbps. And they're not just super-fast. They're super-flexible. Intel PRO/1000 T Server Adapters offer advanced server features like load balancing and fault tolerance across multiple operating systems. Intel® PRO Network Connections, the intelligent way to connect. For more information and a trial kit, visit intel.com/network/go/cat5/



NetReality bolsters broadband management support

At N+I, the company will introduce high-level reporting software, a broadband network monitoring tool.

BY DENISE DUBIE

SANTA CLARA — Network monitoring and traffic shaping vendor NetReality will use next week's NetWorld+Interop 2001 in Atlanta to unveil a version of its flagship software with more reporting features and a new switch designed to monitor broadband connections.

The WiseWan Broadband traffic-monitoring device will let users track usage on ATM,



DSL, metropolitan-area networks (MAN) and fixed wireless networks, the company says. In Version 5.0 of the Wise-Wan software, NetReality built in support for more WAN protocols, such as SOCKS, point-topoint tunneling protocol and Network News Transfer Proto-

col over Secure Sockets Layer. The software now supports about 500 protocols "out of the box," the company says.

Other enhancements include protocol and user grouping capabilities, which let users pinpoint and pull out specific data without scrolling through all data. Also new is "CIO-level" reporting features and automatic report generation. The company says the new reporting features will help network managers give executives network information written in business terms.

Oliver Gubian, global network architect for Lexmark, says that before using WiseWan at the French printer manufacturer, he had no way to prioritize traffic.

He uses WiseWan to know "what's going on with the links" at his companies locations in Spain and Italy. "We had the basic net management tool and just used to know if the link was up or down," Gubian says. "We can now see traffic and shape it. It saves us a lot of time when we are troubleshooting and a lot of money when we have to deploy a new application."

NetReality's software and



The WiseWan 50 (bottom) and the WiseWan 201 monitor and control WAN traffic at line speeds up to 128K bit/sec and 2M bit/sec, respectively.

hardware let Gubian monitor traffic, prioritize applications and shape the traffic from one console. "That's something no one else could let us do," he says. He didn't discuss other vendors, but NetReality competes with NetScout and Concord in traffic monitoring and with Packeteer in traffic shaping.

Gubian has also taken advantage of the new reporting features in Version 5.0. He says he used to manually generate 10 to 20 reports per day, but with the beta of the new version, he has started to schedule report generation and distribution. By

grouping the data by protocol and users, Gubian says he can "more quickly deliver the information people want to see, and only that information."

WiseWan software runs on Solaris and Windows servers, and the WiseWan switch sits on a customer's WAN access point. The software collects information on WAN traffic and delivers statistics to the network manager in real time. Depending on the size and type of the network, customers can choose to have several WiseWan boxes placed on access points throughout the WAN. The WiseWan software can manage all the WiseWan devices.

The latest switch, called Wise-Wan Broadband, will let users with various types of networks also manage DSL, ATM, fixed wireless and MANs from the same console and with Wise-Wan 5.0 software.

WiseWan 5.0 will be available Sept. 11, and pricing ranges from \$4,000 to \$40,000. WiseWan Broadband will be available Sept. 13 in different speeds, and pricing ranges from \$10,000 to \$40,000.

NetReality: www.netreality.

CA mgmt. retains control

Vote by shareholders retains current board.

BY DENISE DUBIE

ISLANDIA, N.Y.— Computer Associates' shareholders last week voted to keep all 10 incumbent directors on the management software company's board, following a public two-month proxy fight initiated by a private investor and CA shareholder.

Estimates show that all CA's nominees received at least 75% of the votes. The votes will be certified in about two weeks, but it is not expected the results will vary significantly.

Texas billionaire Sam Wyly initiated the proxy fight in June and criticized the company's tactics and management's large salaries. Ranger Governance, led by Wyly, lobbied shareholders to vote to remove the current board at CA and replace it with one assembled by his private investor group.

Wyly later revised his plan to a less aggressive one that would partially replace the board, putting four of his nominees inside CA. He said at the time the company's financial value and business practices had fallen off in the past few years, and it needed outside intervention to make management changes. Wyly sold Sterling Software to CA for \$4 billion in 2000.

Another part of Wyly's proposal called for CA to be broken into four distinct business units, to eliminate



Sam Wyly, the Texas investor who rallied to overturn the CA board, lost his battle to control the company last week.

reported product and customer service confusion. In July CA introduced four new software brands at its CA World user conference.

The proxy win did not entirely erase the memory of the battle for CA executives, who told attendees of a press conference following the shareholders' meeting that the company plans to strengthen the lines of communication between CA and its employees, shareholders and customers.

"We intend to stay closer to investors so they understand why we do the things we do," says Charles Wang, CA chairman and founder.

CA: http://ca.com

BackWeb to 'push' into portal arena

BY JENNIFER MEARS

SANTA CLARA — Many corporations are considering portals as a means of organizing the vast amount of digital information and resources they have. But how to be sure critical information gets where it needs to go?

That's a question BackWeb thinks it can answer with push technology. This week BackWeb will unveil the Proactive Portal Server at the Enterprise Web and Corporate Portal Show. The Proactive Portal Server is the first product to be released since BackWeb announced a strategic shift to focus on the portal market in June.

Last year, BackWeb announced a partnership with Viador to add BackWeb's Polite push tech-

nology to that firm's portal offering, and BackWeb also has agreements with firms such as IBM, SAP and Epicentric.

The Proactive Portal Server, however, is BackWeb's first product in the portal arena, giving users a version of its software that can be integrated into any existing

portal framework, says Bob Braham, a BackWeb vice president.

The partnership with Viador focused on the Polite push technology, which organizes content in packages that are delivered to users as bandwidth is available. The technology lets

the pushing pause when bandwidth is Portal use rises needed for other A recent study by content, and rethe Delphi Group sumes where it left found that 54% of off when the bandthose surveyed width becomes available again. planned to implement an enterprise

portal this year,

compared with

42% who said they

nau no suen pians

last year,

Hewlett-Packard is using BackWeb's Polite push technology to send software updates and other information to its Pavilion home PC users without

negatively impacting the performance of those computers. But HP isn't using the technology in conjunction with a portal product.

That's where BackWeb believes its technology will be See BackWeb, page 12

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There's a powerful new hero in tape backup systems, Super DLTtape. The pinnacle of 15 years of advancements in archive and recovery engineering. It features a blistering transfer rate of over 22 MB per second and an amazing capacity of up to 220 GB. And the Super DLTtape system is backward-read compatible, so you won't leave past data on DLTtape™ IV media behind. It's not surprising why this is the tape backup solution trusted 5:1 by IS/IT managers. To learn more about this extraordinary new force in tape storage, go to www.NWD.superdittechnology.com.



Allegro Networks details router service plans

BY CAROLYN DUFFY MARSAN

Allegro Networks, a stealthy start-up led by former Bay Networks CEO Dave House, has released the first details of the innovative carrier-class routing system it plans to ship next year. Allegro is developing what it

calls a "multi-

router system" that will let corporate network managers purchase routing functions as an outsourced service from their carriers. In an interview with *Network World* last week, Allegro officials outlined a new vision for how companies will buy, operate and deploy routers as IP-based services.

Allegro's multirouter system



The news behind the news

HOW ALLEGRO MAY REDUCE MPLS VPN HEADACHES

llegro Networks engineers say their multirouter system will address the scalability and security issues associated with certain types of VPNs based on Multi-protocol Label Switching, a next-generation traffic engineering technology developed by the Internet Engineering Task Force.

Specifically, Allegro says its system can scale to support VPNs based on an IETF informational document known as RFC 2547. RFC 2547 outlines a technique for using the Border Gateway Protocol (BGP), which runs on the Internet's backbone routers, to propagate information about MPLS VPNs.

With RFC 2547, ISPs must manage a special BGP routing table for each MPLS VPN and store parts of that routing table at every location where the VPN is accessed. Critics of RFC 2547 allege that it creates scaling problems for carriers, which are already having a difficult time managing one fast-growing BGP routing table.

Allegro says the distributed architecture of its multirouter system is better suited for RFC 2547 rollouts than traditional routers, which have a centralized CPU architecture.

"If you're going to even consider RFC 2547, you need a lot of memory and a lot of CPU power," says Troy Dixler, a co-founder of Allegro who runs the company's consulting and engineering arms.

Dixler says that while Allegro is agnostic about whether RFC 2547-based VPNs are a good idea, he believes the company's multirouter system is the only offering on the market that is going to be powerful and scalable enough for carriers to support this technique.

"With today's large edge routers, they haven't scaled the control plane to support [RFC] 2547," he adds.

Allegro officials also say their system addresses potential security problems associated with RFC 2547 VPNs by ensuring that each customer's data is kept on a separate router. And they say it reduces the carrier's administrative burden by pushing the burden of controlling an RFC 2547 VPN onto the corporate customer.

Jennifer Liscom, principal analyst with Gartner, agrees that Allegro's multirouter system is appropriate for RFC 2547 VPNs.

"MPLS is a very processing-intensive type of feature, and running VPNs on top of that requires a tremendous amount of processing power. If you're encrypting data, you need even more processing power. And if you're compressing data, even more," Liscom explains. The Allegro multirouter system "is in better shape to handle that."

— Carolyn Duffy Marsan

is designed to save companies money by not requiring them to purchase or maintain many large routers at the edges of their networks. However, the system gives companies the ability to configure, administer and manage the routers that they lease from their carriers.

"What enterprises really want is the bandwidth, but they have to buy expensive routers to get it," explains Allegro's cofounder Troy Dixler, who runs the consulting and engineering arms of the company. "We're putting the capital expenditures onto the carrier ... and the enterprise buys only the router ports that it needs."

Allegro's multirouter system is actually many routers in one box, with each router having its own processor, memory and operating system. The multirouter system can support many corporate networks within a single unit, but those networks are physically and logically separated from each other for security purposes. This approach ensures reliability by isolating each router's traffic from other routers in the same multirouter system, while redundancy is available by purchasing additional routers.

For carriers, the multirouter system can conserve rack space and reduce administrative overhead by replacing many routers from different vendors with one piece of equipment. The box could let carriers offer new types of higher-margin services to their corporate customers, including managed intranet, extranet and security services.

"Managed services have become the mantra for [carriers] to sell, but their customers don't want to give up control," Dixler says. With multirouter systems, "the enterprises get what they require and the carriers get what they require."

The first application that Allegro is pushing is what it calls Real Private Networks (RPN). RPNs are an alternative to VPNs, which create tunnels for sending corporate data over the public Internet. RPNs, on the other hand, are separate, isolated networks that route traffic over a carrier's private IP backbone.

Allegro says RPNs will be less expensive than frame relay and

ATM private networks, while offering more secure and reliable performance than Internet-based VPNs.

Industry analysts agree that Allegro has distinctive technical and marketing strategies for its multirouter system.

"Allegro Networks effectively commoditizes the high-end router and makes it available as a service offering by any upstream provider," says David Willis, vice president of global networking strategies at Meta Group. "This is not only cool technology but a very interesting business model."

"There's definitely a need for this product," says Jennifer Liscom, a principal analyst with Gartner. "I've toured [carriers'] data centers myself, and it's amazing what a mish-mash of stuff they have in their cages. Having the same vendor providing all the equipment ... means the overhead in terms of training and setting the equipment up is minimized."

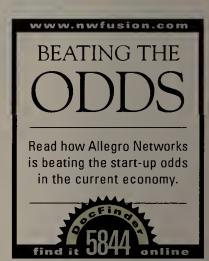
Other companies, including Lucent and CoSine Communications, offer an alternative to multirouter systems called virtual routers. Virtual routers logically divide a single router processor and memory space to handle multiple routing tables, while a multirouter system allocates separate processors and memory to each customer's routing table.

The advantage of Allegro's multirouter system is that each company "has its own router, so there's no chance of a security breach and there's no chance of anybody else getting someone else's information," Liscom says.

Allegro would not identify the speeds and feeds of its multirouter system, its name or its target ship date. But industry analysts say the system will support standard routing protocols.

Allegro also wouldn't identify any carrier customers yet, but Liscom says "they're in a couple of major networks now."

Allegro: www.allegronet works.com



BackWeb, continued from page 10

most useful, Braham says. A survey of technology executives by Bain & Company found that the executives find push technology useful but not as a standalone product. About half said they would consider adding the technology to a portal.

"They're saying, 'If you can find ways to make ... our portal more effective, then we'll talk with you,' "Braham says.

The use of enterprise portals is growing as businesses seek ways to handle vast amounts of digital information and resources. A key component of the next-generation portal will be the ability to get that organized information where it needs to be, says Gene Phifer, research director at Gartner.

"So when certain things happen that demand my attention,I can have something pushed to me proactively notifying me wherever I am, whether I'm at my PC, at my desk or on the road," he says.

Push technology been criticized as being too obtrusive. But BackWeb uses a subscription approach that lets users define who should get what information. The software includes an "escalation" feature so that if an alert isn't received at its first destination, say a user's PC, it is then sent to that person's cell phone or pager.

The BackWeb technology uses a client/server architecture. The client polls the server on a dynamically set polling schedule to retrieve appropriate content. The server runs on Windows NT and Solaris, and the BackWeb client is supported on Windows 95 machines and higher.

The Proactive Portal Server is available now and costs \$100 per user.

BackWeb: www.backweb.

ANX,

continued from page 1

Despite extensive testing, VPN interoperability problems remain so intractable that Ford's Kirchoff is gloomy enough to call the IPSec-testing effort a "mistake." In an about-face, the ANX will now seck a singlevendor approach to VPNs, even though the 900 companies now subscribing to the network service are using a variety of VPN gear.

Founded in 1995, the ANX (previously known as Automotive Network Exchange, the organization now goes by ANX because other industries have climbed aboard) has led a pionecring effort to create a secure, IP-based network for sharing mission-critical data with manufacturing suppliers in the multibillion-dollar automotive industry.

The ANX is a managed network comprising services from handpicked ISPs. These ISPs have to meet strict ANX latency and bandwidth guidelines. For security, customers have to use ANX-approved VPN encryptiontunneling equipment that has gained IPSec certification from TruSecure (formerly International Computer Security Association) labs. Cisco, Check Point Software, Symantec, Alcatel and Nortel, among others, offer TruSecure-approved gear.

Alternatively, customers can use one of six ANX-certified VPN service providers, including WorldCom, Equant, AT&T and Ameritech. The ANX strategy for certifying multiple IP service providers has worked out well by providing choice, in-



stead of granting a single ISP the sole right to serve the auto industry for this groundbreaking high-availability IP network.

But the experience with VPN gateways has been less successful. Equipment interoperability woes haven't faded after five years of effort, and it has proved impossible to get the VPN vendors to work together, according to ANX auto industry founders and ANXeBusiness, say 'leave us alone.' After all, they comply with the standard." He said vendors are simply refusing to cooperate on interoperability, arguing that passing an IPSec-compliance test should be adequate.

In response, Naugle announced at AutoTech that ANXeBusiness — which authorizes what service providers, equipment and applications are allowed on the ANX — will

as yet, what certificates the ANX will use, but SAIC, ANXeBusiness' parent company, does have an investment in VeriSign.

VPN vendors speak out

Vendors of the ANX-certified gear say the problems are real and an unavoidable part of interoperability.

Nortel spokespeople had not heard about Kirchoff's specific complaints, but speculated that his beef might stem from a common challenge in setting up VPNs: security policy. "The two parties need to agree on a security policy. If you don't, you'll have difficulty configuring the equipment," says Simon McCormack, a senior product manager for Nortel's Intelligent Internet group.

These policies include such things as level of encryption. So, if a VPN device at one end of a link calls for Triple-DES encryption and the one at the other calls for DES, there is no way for the two to pass data.

The problem may also be that too many companies are involved in trying to set up a single VPN, says Bill McGee, security channels development manager for Cisco's VPN and Security business unit. "When you have a hodgepodge of companies with a mix of skill sets, you are likely to run into problems," McGee says. "ANX is an experiment. These people are pioneers on the bleeding edge."

General Motors and Daimler-Chrysler, also using the ANX more each year, have had their own VPN problems. They seem inclined to follow Ford's lead to use a managed VPN service on

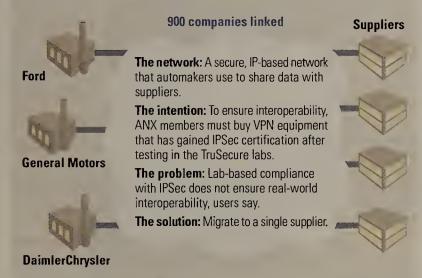
At DaimlerChrysler, which now supports more than 1,100 IPSec tunnels through its own network arrangement, there have been plenty of VPN interoperability problems to sort out, says Ralph Benman, director of global network planning and operations. "In a couple of months, we hope we'll solve the problem," he says.

For other ANX users, however, VPNs aren't much of a problem.

"We're using the TimeStep VPN gateway, and we only have a dozen trading partners on the ANX," says Doug Buchanan, business technology manager at steel manufacturer Dofasco. "If we had hundreds of trading partners, it could be an issue."

ANX's vexing VPN woes

Auto industry extranet trips over interoperability problems.



which has owned and managed the ANX network service for the past 18 months.

"The interoperability we were depending on wasn't there in the VPN equipment," Kirchoff said. "We've found that two IPSec vendors may both conform to the IETF specification, but there was no hope of finding interoperability."

For Ford, which has 589 trading partners using the ANX to share things such as CAD/CAM drawings for new cars, the breaking point came earlier this year in a drawn-out struggle to get two VPN vendors — which Kirchoff declined to name — to enable their VPN gateways to support secure tunnels.

This "hurtful episode" cost Ford in lost time and revenue, Kirchoff said. And it convinced Ford and ANXeBusiness management that it would only be possible to achieve interoperability and develop meaningful service level agreements using a single equipment vendor.

"Mere compliance with the IETF specification is not sufficient to ensure interoperability in any IPSec product, and it's difficult to get multiple vendors to work together," said Erik Naugle, CTO at ANXeBusiness. "The vendors soon begin offering a managed VPN service based on a single vendor's equipment.

Though he declined to name the vendor whose equipment will be used for the VPN, Naugle said he expects the service will cost corporate ANX customers about \$300 per tunnel.

He said the idea is to let new ANX users make a Web-based request for a VPN tunnel to another ANX customer, and for ANX to be able to fulfill that request within four hours. Naugle said one problem is that many ANX users now use combined firewall/VPN equipment, which makes it difficult to manage VPNs through the firewalls.

While ANXeBusiness would not make use of the service mandatory, the Big Three automakers — which for decades have made certain technologies mandatory for suppliers — certainly could. It's too early to say whether they will, but if the service works out to everyone's liking, the automakers might even subsidize its use, sources say.

Offering a managed VPN service based on a single VPN product will also help the ANX roll out digital certificates for use with VPNs, another long-time goal that has been unfulfilled because of the VPN interoperability problems. It's not known,

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Lord of the files: NetWare 6 builds on strengths

NetworkWorld

NetWare

A souped-up NetWare 6 promises some cool user and administrator features.

BY JAMES GASKIN, NETWORK WORLD GLOBAL TEST ALLIANCE

There's something good about a product that keeps focusing on its strong points, even when those strong points are not always fashionable. Accused of being "just a file and print server," Novell made NetWare 6 the ultimate file and print system:Any client anywhere on the Internet can print, and use storage services, from a NetWare 6 server without loading a single byte of Novell's proprietary Client32 software.

Based on what we saw during our testing, NetWare 6 is not just hyped-up NetWare 5.2. NetWare 6 adds enough features that Novell could have called it NetWare 6 Plus or NetWare 7. (See "How we did it," www.nwfusion.com, Doc-Finder: 5852).

New features abound

Novell's new iPrint feature merges object-oriented Novell Distributed Print Services and support for Internet Printing Protocol to make printing as nearly idiot-proof as possible. Graphical mapping and design tools help managers build floor plans with printer icons (laser, color, inkjet and dot matrix printers, as well as a copier icon). After importing a floor plan image, or drawing one, we could drag and drop printer icons onto the floor plan. Printer configuration settings are set without exposing users to the details. When users click on the printer icon, the iPrint browser plug-in determines whether the PC has the right printer driver. If not, the driver downloads in the background and appears in the printer list inside Windows. Help desk staffers will rejoice,

since printer problems often rank first in call volume. The joy of never explaining a printer driver to a user may be worth the upgrade.

New in the synchronization game comes iFolder, Novell's feature to end the "e-mail files to yourself" game of keeping the same documents available on multiple systems. Powered by the included Apache Web server Version 1.3, iFolder works in the background to equalize the documents in each system's My Documents folder with an identical set on the server. Novell efficiently uses bandwidth by transferring only changed portions of files in 1K-byte blocks. All the file synching is coordinated by directory services authentication, and all necessary server components install automatically. In our tests, synching happened quickly and invisibly in the background at configurable intervals, triggered by a task-bar iFolder resident icon.

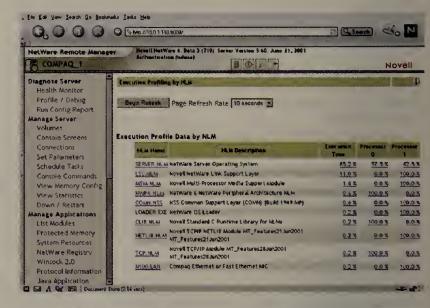
A browser plug-in client lets users control their files from any computer anywhere on the Internet. One of the encryption options lets you lock all files in transit, as well as when storing files on untrusted servers, such as at an ISP or on an iFolder service running on Microsoft's Internet Information Server on Windows NT/2000. Novell limits iFolder to Microsoft Explorer 5.0 or 5.5, but our tests showed it working with Netscape 4.7 on

Windows 2000 clients, but not Netscape 6.1. Tracked files changed on the server, such as in group directories, are synched down to users.

Novell File Access Packs turned our NetWare 6 server into a storage appliance for all other operating systems. Using the native file access methods for each operating system, Windows 9X/NT/2000, Macintosh, Unix and Linux clients can attach and use NetWare-based storage with their standard file connection software. With no NetWare client software necessary, Windows and Macintosh worked as advertised (a Linux system became a NetWare server for this review, but we have verified Novell's NFS capabilities under multiple NetWare versions for over a decade).

It's the storage, stupid

Novell reports storage needs double every six to nine months. Novell Storage Services (NSS) Version 3.0 with 64bit addressing boosts NetWare server capacities into the terabyte range, with volumes able to hold 8 terabytes of data in up to 8 trillion files, and can keep 1 million files open concurrently (Novell claims this and demonstrates it at conferences, but we couldn't check it here). Storage space, allocated from storage pools holding logical volumes, was increased on the fly without reformatting a disk. Tying NSS together with NetWare 6's included two-node clustering means storage-area networks (SAN) are within the technical and financial reach of small and midsize companies. Managing pools, logical volumes and disk partitions isn't exactly easy, but the browser-based management tools let you manage storage using clean utility screens. Safeguards are in place, and the NetWare 6 defaults will keep you out of trouble, but use caution. If you haven't deleted the wrong volume yet, you will one day. Our Compaq ProLiant 360 servers and StorageWorks Fibre Channel switch to the Storage-Works 4100 RAID Array needed a single Compaq hardware-spe-



The new NetWare Web Manager acts as a management utility portal.

cific NetWare module to support clustering and SAN creation. The learning curve for hardware disks, disk partitions controlled by storage pools, and carving logical volumes from those pools, is steep and slippery, but we only had to start over once to get it right. Instructions in beta releases don't always match configuration screens.

NetWare 6 now includes two-node clustering at no extra charge (nodes 3 to 32 will have a price set soon). If you add a few SAN components or a shared SCSI disk subsystem, NetWare 6 moves into the high-availability storage realm.

Along with the Apache Web server running the NetWare utilities, Novell still includes the Netscape Enterprise Server, including its FTP and News server modules. The full installation loads both servers, letting two different Web servers run concurrently on the same NetWare 6 server hardware.

Novell Directory Services (NDS) Version 8.6 eases some object management tasks, and more functions work through the ConsoleOne utility. NDS also adds more detailed controls, but keeps the name eDirectory, which first appeared in Net-Ware 5.1. EDirectory now runs on all major operating system platforms and handles more object details than ever.

Management tool transitions from NetWare Administrator under Windows to ConsoleOne (Java) and NetWare Remote Manager (browser) are almost finished. Almost everything can be done in ConsoleOne and Remote Manager; yet a few details force administrators back to NetWare Administrator and the DOS-style C-Worthy screens.

Summary

Long the network administrator's favorite, NetWare now offers two great advantages to every user on a network: nohassle printing (iPrint), and seamless synchronization of all files between a network server and desktop, laptop and home machines (iFolder).

The solid beta performs well; our lab has never lost a file under NetWare beta or even alpha code, and that trend continues. A few user name inconsistencies for various management utilities notwithstanding, NetWare 6 should be ready for rollout this fall.

Gaskin is a freelance writer specializing in technology. His latest of 12 books, Mastering NetWare 5.1, is available from Sybex. Visit www.gaskin.com, or e-mail bim at james@ gaskin.com.

Gaskin is also a member o_l the Network World Global Test Alliance, a cooperative of the premier reviewers in the network industry, each bringing to bear years of practical experience on every review. For more Test Alliance information, including what it takes to become a member, go to www.nwfusion.com/alliance.

NetResults

NetWare 6 first look

COMPANY: Novell, (888) 321-4272, www.novell.com.

PROS: Great new user tools (iFolder and iPrint); file and print access from any client anywhere without loading NetWare Client32 software; automatic, well-tuned multiprocessor support; management browser utilities developing nicely; ConsoleOne management utility not snappy, but not glacial anymore.

CONS: Management still split between several utilities, even for one operation; higher system requirements than before (512M bytes RAM recommended).

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THE POSSIBILITIES ARE INFINITE

PeopleSoft eyes new technologies

BY ANN SULLIVAN

ORLANDO — PeopleSoft utilized its user conference last week to detail development efforts aimed at bolstering its private trading exchanges and mobile access software.

For starters, PeopleSoft disclosed at its Connect 2001 conference that it bought the intellectual property and certain assets of content management vendor Cohera for an undisclosed amount. With the purchase, PeopleSoft gains catalog management and content integration software and a small foothold in the private trading exchange market.

Combined with People-Soft's sales and procurement applications, the Cohera software will let users combine internal product information with suppliers' information.

Getting into private trading exchanges is a move PeopleSoft had to make to stay competitive with the likes of customer relationship management vendors SAP and Oracle, says Monica Barron, senior analyst at AMR Research.

According to Barron, content management is just one piece of the private exchange business. Of the CRM vendors, competitor SAP is probably furthest along because of its relationship with Commerce One.

Mobile access

On the mobile front, PeopleSoft took its first steps to deliver application access to users who aren't connected to a network.

PeopleSoft said it will build support for its Mobile Agent into future applications, beginning early next year with its sales and field services applications.

Mobile-ready applications will place roughly 500K of code on client devices so employees can access limited content and features of the company's PeopleSoft 8 suite.

PeopleSoft: www.people soft.com

271, continued from page 1

fast," Broadwing CEO Rick Ellenberger said at an industry conference in May.

Within a year of offering long-distance in New York, Verizon captured almost 20% of the residential market share. In its latest quarter, the provider added 800,000 new long-distance customers in New York and Massachusetts.

The reason for Verizon's success, says Jill Wagner, vice president of marketing, is customers want one bill. She believes the same will ultimately be true for business users.

So far, neither SBC nor Verizon — which by some accounts control one-third of all access lines — have put much effort into winning over long-distance enterprise customers, notes Courtney Quinn, an analyst with The Yankee Group in Boston. It's simpler to target consumers with a vanilla long-distance package than go after enterprise users with complex data needs.

Thomas Nolle, president of consulting firm CIMI and a *Network World* columnist, says RBOCs won't be able to fulfill the needs of multistate companies until they have contiguous mass across multiple regions.

But that day is coming. Verizon, Nolle points out, could be close to achieving mass. With Massachusetts, New York and Connecticut already in the bag, Pennsylvania approval in progress and plans to add New Jersey in the near future, Verizon could have a large long-distance service area in the Northeast by the end of the year.

With increasingly fierce competition for enterprise dollars around the corner, Nolle says business uscrs may want to hold off on signing longterm contracts. Even if the RBOCs can't offer anything better in terms of overall price, they may be able to offer services and packages that others can't. For example, RBOCs have traditionally been better than competitors at offering transparent LAN services and could potentially begin tying those services together between states, Nolle says.

Some companies won't switch even if RBOCs offer better pricing. Paul Lourd, director of IT for UST, a holding company for smokeless tobacco and wine subsidiaries

Here come the Bells

RBOCs have filed 271 applications to offer long-distance voice and data services within every region of the country, setting the stage for a bloody long-distance battle.

Qwest

Filed for approval in Arizona, Colorado, Idaho, Iowa, Minnesota, Montana, Nebraska, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, Wyoming.

*SBC

- Offers long-distance in Kansas, Oklahoma, Texas.
- Filed for approval or will by year-end in Arkansas, Missouri,
- In 2002 will file for approval in California, Nevada.
 - **To be determined:** Illinois, Indiana, Michigan, Wisconsin.

- **Verizon
- Offers long-distance in New York, Massachusetts.
- Approved in Connecticut.
- Filed for approval or will by yearend in New Hampshire, New Jersey, Pennsylvania, Rhode Island, Vermont.
 - In 2002 will file for approval in Delaware, Maine, Maryland, Virginia, Washington, D.C., West Virginia.

BellSouth

Filed for approval in Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee.



*SBC also offers service in Connecticut through its acquisition of SNET.

**Verizon can also offer long-distance in the 30-plus states, including Florida and Texas, served by GTE, which Verizon acquired.

in Greenwich, Conn., has been happy with the Sprint voice and frame relay service he has supporting 30 sites. Although he has had some problems in dealing with the local RBOC, he says he would be unlikely to switch providers, even if the RBOC was offering a slightly lower price.

Door is open

Despite RBOCs' grand plans, 271 approval is not automatic. To obtain long-distance approval under Section 271 of the Telecommunications Act of 1996, RBOCs must first convince local public utility commissions that they are allowing local voice competitors fair access to their networks. Then, they must file for 271 approval with the Federal Communications Commission.

So far, the FCC has approved only a handful of RBOC 271 applications, but the door is open. Besides Verizon's foothold in the Northeast, SBC has Texas, Oklahoma and Kansas in its long-distance portfolio. Qwest Communications and

BellSouth have not yet won approval for any states, but both plan to have at least one approved by year-end and have bigger plans for 2002.

SBC recently ran into some problems on its 271 application for Missouri and withdrew the application temporarily to add more information about competition.

And during the last few years, the FCC has turned down all the Bells on several occasions, largely because their billing systems did not let competitors easily lease network elements from the RBOCs.

"It's definitely not a rubber stamp process," Yankee's Quinn says. "All of these guys came out of the gate with 271 applications [right after the telecom act], and all of them were shot down."

Even the recent approvals have not come easily. In every state approved so far, CLECs and interexchange carriers such as AT&T and Sprint have fought fiercely against 271 approval by trying to convince

regulators the Bells arc not fulfilling their obligations when it comes to local competition.

In Pennsylvania, Vcrizon narrowly won a 3-2 decision from public utility commissioners and only managed that after promising to meet a permanent performance-assurance plan and agreeing to pay stiffer fines for failure to meet that plan.

However, Quinn adds, RBOCs — in particular Verizon and SBC — have learned from their mistakes and are doing a better job of handling the 271 process.

Barbarians at the gate

What do the current long-distance providers make of all this? "Quite frankly, because of the RBOCs' monolithic local presence, they're able to surpass our long-distance market share in a matter of months after they enter a market," says James Fisher, a spokesman for Sprint. "No one's cracked their hold on the local market, so they are very tough to beat."

To compete with the RBOCs Sprint will come out with new services and bundles, Fisher says, although he declined to go into specifics.

Ideally, what long-distance providers and CLECs would like to see, Fisher says, is true local competition in a state before an RBOC is given permission to offer long-distance.

"If you walked up to a person in the street in New York or Texas and asked them if they had a choice for local voice service, they'd say no," Fisher says.

Some observers note that approval for long-distance data services could come sooner than next year, if the feds pass the Tauzin-Dingell bill, currently before Congress (see "A tale of two telecom bills," page 25). The bill seeks to encourage RBOCs to roll out broadband services more rapidly by removing restrictions on RBOCs providing long-distance data services in their home states.

"If the RBOCs continue going with the 271 process, we could begin to see significant service offerings early next year," CIMI's Nolle says. "If Tauzin-Dingell goes through in some form, we may see big RBOC data offerings by Q4."

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Proposal could ease wireless upgrades

Adoption of Intersil's "dual-band radio" could bring together wireless LANs built on different standards.

Briefs

IBM recently offered a glimpse of an upcoming server --- codenamed Regatta — that has selfdiagnosing and self-healing features designed to make the server more dependable. The server is due to be released in the fourth quarter and uses up to 32 of IBM's Power4 processors. IBM highlighted several features intended to boost the reliability of the server. For example, the server uses a "self-healing system," or a network of more than 5,600 sensors spread throughout the box to detect internal errors and take corrective action. The sensors can help determine the cause of a problem. Regatta will also feature a "PCI-retry" function, which makes a second attempt to send data within the server in the event of an error, and error-correcting code and "memory scrubbing," which detects certain types of errors when reading from memory, corrects the data and sends them back out. The server will go head to head with systems such as Sun's Enterprise 10000 server and Hewlett-Packard's Superdome server, IBM says. IBM has yet to release pricing for the Regatta.

IBM: www.ibm.com

Storage vendor Northern Parklife last week launched software that lets network professionals monitor and manage disk quotas in Windows NT and 2000 environments. Called Quota Server 5.3, the software uses SNMP to gather data from disk drives throughout a network and report it to management consoles from Tivoli, Hewlett-Packard and Computer Associates. When a drive exceeds the threshold an administrator has set, a warning message is sent to the administrator. Quota Server 5.3 is shipping now for \$900 per

Northern Parklife: www.north ernparklife.com

ву јони сох

n upcoming IEEE vote could simplify enterprise deployment of wireless LANs . . . or confuse things still further.

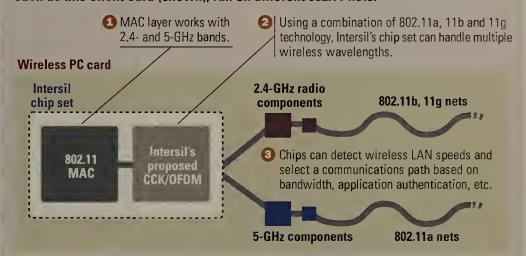
A task group of the IEEE is scheduled to vote this month on adopting a proposal by wireless chip maker Intersil that would let future wireless LAN products, such as interface cards and access points, support wireless LANs operating in either of two different radio frequencies: 2.4 GHz and 5 GHz.

Such a "dual-band radio" would let a laptop user tap into one of today's IEEE 802.11b LANs, which run up to 11M bit/sec, on 2.4 GHz. But it also would let the same user make use of either 802.11g nets, which will run over 20M bit/sec on the same 2.4-GHz band, or the upcoming 802.11a LANs, which run up to 54M bit/sec on the 5-GHz band.

That could be appealing to some corporate sites, where 11b nets are already deployed, but which might want, or

A wireless LAN migration path?

A proposal being voted on by the IEEE this month could let wireless LAN products, such as this client card (shown), run on different 802.11 nets.



need, higher bandwidth. These sites would have the option of making use of 11g nets without having to incur the expected higher costs for the still-faster 11a LAN equipment.

Right now, corporate users are faced with the problem of having to use one card for one net, and a different card for another IEEE wireless LAN. That's See IEEE, page 18

NTP Software set to manage storage capacity

BY DENI CONNOR

MANCHESTER, N.H. — NTP Software last week rolled out an enhanced version of its software that lets network professionals eliminate time-consuming tasks related to managing the storage capacity and utilization of their Windows NT and 2000 networks.

Called Quota & File Sentinel (QFS) 3.0, the software features an array of policies that network managers can set to monitor and control disk space, utilization and disk performance. The idea behind QFS is that storage, normally assigned to individual servers, can now be monitored on a server-by-server basis across a network and storage policies can be more easily applied networkwide.

One of QFS' best features is its serverto-server policy-change distribution platform, analysts say. "The Enterprise Application Services Extension platform is great because it lets an administrator replicate configurations from one server to the next with a single drag-and-drop operation," says Nancy Marrone, an analyst with the Enterprise Storage Group. "EASE also supports hierarchical policy management. Policies can be set across the whole environment at once, across groups or at a single server level. The software makes it significantly easier to manage storage resources in a large environment."

For instance, a network manager might want to delete all MP3 files in user directories on all servers but retain them in public directories. With QFS 3.0, he could set up a policy on one server that would find all MP3 files on that server and others in the network, determine their ownership, delete them and then write the results to a log file, from which a report could be built. A policy could also enforce a user limit on capacity to 3G bytes of disk capacity, if desired.

Version 3.0 also lets customers create temporary storage access quotas for roaming users or visitors on a network and create templates that prohibit access or viewing, deleting or modifying any type of file, such as VBS, GIF, MPEG or MP3.

With QFS 3.0, changes to files, directories and volumes can be distributed to servers on a network through a simple command via the browser-based management console.

QFS includes a Web-based management console that shows individual quotas, approved persons and important disk or user-resource data. In addition the console integrates with most tape back-up vendors, such as Veritas and Legato, and can exchange information with systems management consoles from Computer Associates, Tivoli and Hewlett-Packard.

NTP's QFS 3.0 competes with software from PowerQuest, WQuinn and Astrum

The software, which is available now, costs \$1,000 per server and \$25 per workstation

NTP: www.ntpsoftware.com



Tolly on Technology . Kevin Tolly

WINDOWS 2000 SERVER: UNSINKABLE*

ook closely at the Microsoft Windows 2000 Server ads screaming about five nines. Find the asterisk and read the fine print. I did. One could imagine a Titanic survivor finding out afterward that there was an asterisk after "unsinkable" and that, according to the White Star Line, you were guaranteed safety as long as the ship stayed away from all the nasty things it might encounter out in the ocean.

The Microsoft ads have taken a "shout it from the mountaintop" approach. The one I'm looking at is a spread that combines an unnatural close-up of a traffic light, green of course, with five circus-colored nines plastered across a somewhat rickety-looking water tower.

The message is clear — near-constant uptime is within the reach of the masses. The notion of yearly downtime measured in single-digit minutes is dangled before the reader.

"99.999% Uptime. For a server operating system . . . that translates into just over five minutes of server downtime per year.*"

But before you get too elated thinking that even YOUR server can experience such uptime, follow the asterisk to the bottom of the page.

No doubt at the behest of Microsoft's lawsuit-averse legal department, we encounter the fine print. And fine it is — about 6 or 8 point as best as I can reckon. But it is in bold type. It reads as follows: "This level of availability is dependent on many factors outside of the operating system, including other hardware and software technologies, mission-critical operational processes and professional services." What about global warming? (As I've asked on a previous occasion.)

So there it is — one very bold "uptime" statement drastically diluted by one all-encompassing caveat.

Which leaves us with what? Nothing, certainly, that you can take to the bank — or to your boss.

The statement alone seems to undermine Microsoft's basic claims. One can understand that hardware (at least the basic server innards) will influence the uptime of the operating system. But isn't the Microsoft server system certification supposed to take care of that?

And, what do they mean that "other ... software technologies" can be uptime culprits? A true mission-critical operating system doesn't let application software take control of the system in such a way that it can crash the system.

But let's not stop there. I suppose by "operational processes and professional services," they mean that if the cleaners inadvertently unplug your server to plug in the vacuum you can't hold Microsoft responsible and count that against your five minutes. Why don't they just include "... and acts of God?"

Naturally, if you (the network professional) trigger a shutdown, you can't count that against your uptime. I think that is the key to the whole 99.999% claim.

My own experience with Win 2000 (Professional not Server) is that where NT 4 forced you to reboot (with its blue screen), Win 2000 makes you WANT to reboot. Things just stop working — a simple dragand-drop elicits cryptic "no more system semaphore" messages.

While, granted, Win 2000 is far more stable than its predecessor, the 99.999% claim has caveats so broad that I find it hard to take seriously.'

Tolly is chairman and CEO of Tolly Research. Tolly is also founder, president and CEO of The Tolly Group. He can be reached at ktolly @tolly.com.

IEEE, continued from page 17

because of the different frequencies and the different modulation schemes used for each one. If a corporation installs an 11b net today and then adds 11a access points for a streaming video application, 11b users would not be able to participate in the 11a net

The Intersil proposal needs backing from 75% of voting IEEE task force members. If it gets that majority, the 11g task group will formally accept it, and then decide what changes or modifications to make to it. That final work could take up to 12 months. Otherwise, the task group will have to find other ways to smooth the migration from 11b nets today to faster nets in the future.

Intersil suggests taking part of the existing 11b standard, known as Complementary Code Key (CCK), and grafting it onto the modulation technique, called Orthogonal Frequency Division Multiplexing (OFDM), used by 11a (see graphic, page 17). CCK would let the chipset handle 11b and, in future, 11g; OFDM would let the chipset also handle 11a nets.

By contrast, Texas Instru-

ments proposed using an existing but optional part of 802.11, an encoding scheme called Packet Binary Convolutional Coding (PBCC), which is a technique that lets more data be packed into 2.4-GHz transmissions on an 11b net. TI's wireless business network unit, formerly Alantro Communications, already has 11b chips that include PBCC, which let those chips support maximum data rates of 22M bit/sec in the 2.4-GHz band.

Jim Zyren, director of enterprise and OEM products with Intersil's wireless division, says the proposal being voted on would simplify decisions for enterprise users, and give them a manageable migration path from 11M bit/sec nets today to faster nets in the future.

But nothing is simple in wireless LANs. William Carney, director of marketing for TI's wireless networking unit, says the vote may keep wireless LAN standards "in a very murky state" instead of clarifying them. "We're just going to see how things pan out," he says.

Although vendors and industry analysts report very strong 11b sales, they also say demand is only just starting, which means many corporate IT groups have yet to make a deci-

sion about wireless LAN investments at all.

In addition, prices continue to change rapidly in the wireless LAN market. Today's 11b equipment prices continue to fall. And LAN vendors say they expect 11a prices to be 25% to 50% higher than 11b prices, instead of 100% or more. If so, that will put starting prices for 11a interface cards at about \$120, and about \$1,000 to \$1,200 instead of double those figures for access points. That's because better chip design has packed more components onto the chip, making 11a products simpler and less expensive to build.

If the price difference is not that great, will companies without wireless LANs today skip over 11b and go with the much higher data rates of 11a? Will they be willing to wait for the dual-band multipurpose 11g LAN products, which won't begin to appear until some time in 2002?

No one knows for sure, but wireless LAN users will certainly have some hard questions about the potential trade-offs of using dual-band radios compared with just changing over to high-rate 5-GHz technology.

"Most of these wireless nets are local, covering just one

floor of a building," says Jay Gelman, software architect with Adrenaline Group, a Washington, D.C., consulting company that specializes in wireless deployments. "To make a change from 10M bit/sec to 100M bit/sec [wired] Ethernet, you have to change everything. But for a small wireless LAN, to actually change over from one set of equipment to another is not a big deal. You just pick a date and make the changes."

"If you have dual-band machines, it might make it easier [in some cases]," says Gelman's colleague Rob DiMarco, also a software architect. "But the question is, how expensive will these dual-band products be?"

In any case, both agree that most of their corporate clients are more concerned about wireless security than maximum data rates. "For the projects I've been involved in, bandwidth is not the overriding factor," DiMarco says.

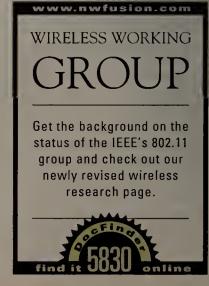
Other observers think 802.11g may be irrelevant by the time products based on it finally appear, sometime in 2002. Atheros, a chip maker that just started shipping 5-GHz 11a chipsets to its LAN vendor customers, eventually supported the Intersil proposal

during the May IEEE voting.

"By the time 11g products come out, so much 11a stuff will be [already] out there," predicts Mark Bercow, Atheros' vice president of marketing.

In addition, Bercow suggests companies may simply handle a mix of 11b and 11a nets in access points, rather than on clients. Several wireless LAN vendors plan to build access points that can take two interface cards: Corporate users can put a combination of 11a and 11b cards into each one to support users with different client cards.

Even if the September vote is a win for Intersil, corporate users eventually will cast their own, and more final vote . . . with dollars.





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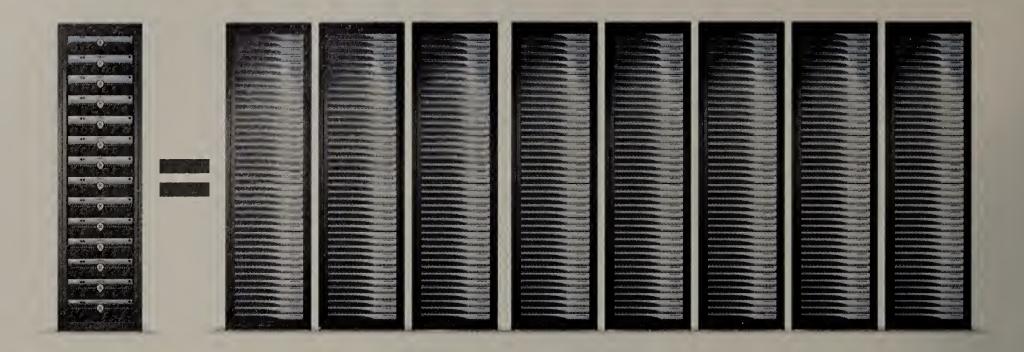
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Carriers & ISPs

The Internet, Extranets, Interexchange and Local Carriers, Wireless, Regulatory Affairs

Briefs

Qwest Communications and Loudcloud last week announced an agreement to comarket their products and offer corporations an end-to-end package of broadband network services with hosted Web applications. The fiveyear agreement is expected to generate \$260 million in additional business for the companies, Qwest and Loudcloud officials say. The agreement includes revenue and volume commitments between the companies, although they did not disclose any financial details. Under the terms of the alliance, Qwest, which is based in Denver, will become the preferred high-speed communication services provider for the Sunnyvale, Calif., Loudcloud. In turn, Loud-Cloud — the IT infrastructure services company — will provide Qwest with hosting and Webmanagement services. Although Loudcloud also has high-profile clients such as AOL Time Warner, it has been struggling recently, and in May laid off 122 workers.

Qwest:www.qwest.com; Loud cloud: www.loudcloud.com.

AT&T has appointed the former head of its data networks to president of AT&T Labs. The appointment of Hossein Eslambolchi, an engineer and scientist who previously oversaw the development and day-to-day operations of AT&T's data networks, follows AT&T's goal to improve coordination between its research and operational arms. Eslambolchi takes the reins of AT&T Labs at a critical time for the carrier, which is in the process of splitting into separate businesses for long-distance, wireless, cable and business services. Eslambolchi says AT&T must get a greater return on the huge investment it is making in research at AT&T Labs. His goal is to slash the time it takes to deploy new products and services developed by AT&T Labs to six months, from today's 12 to 18 months.

ISPs fail to fully follow through on QoS

Service providers still a long way from guaranteed services.

BY DENISE PAPPALARDO

etting beyond best-effort service from an ISP remains a challenge, as most service providers still have no plans to offer guaranteed classes of service over their IP networks.

While technologies such as the Internet Engineering Task Force's (IETF) Multi-protocol Label Switching (MPLS) and Differentiated Services (Diff-Serv) are often talked about, they are not yet

fully implemented.

Many carriers use MPLS to engineer traffic by setting up paths through the net for specifically labeled packets. Diff-Serv also tags packets to set priority levels, but this capability is not widely deployed by ISPs.

So what's the holdup?

"It's still pretty complicated, and many carriers are still waiting for standards that would support QoS over multiple networks," says Maribel Dolinov, an analyst for Forrester Research. Although MPLS is available, installing it can be cumbersome because nodes throughout the entire network need to be upgraded, Dolinov says.

Service providers that have homogeneous networks may have an easier upgrade, but many aren't finding enough reasons to take on the costs. "Carriers aren't seeing a return on their investment, nor can they figure out how to charge users for such services," Dolinov says.

WorldCom is using MPLS for traffic engineering over its UUNET Internet backbone. "MPLS combined with high speeds ensure you don't overload your link," says Dave McDysan, a WorldCom fellow in charge of traffic engineering. MPLS allows WorldCom to direct traffic, and high bandwidth allows the buffers on the switches to be emptied more often, he says. But it's not a networkwide upgrade that could offer users guaranteed services.

WorldCom already lets users dedicate bandwidth to specific applications or user groups, but is looking at using a version of Diff-Serv to offer users multivendor QoS support.

The IETF is working on a specification for Diff-Serv to let carriers set QoS levels that span multiple ISP networks. While still far off, McDysan says this could be the first incarnation of multiple-network service-level agreements.

Once the IETF defines how traffic should be forwarded using the new specifications, ISPs would still have to negotiate transit agreements and settlements, he says. Adding a new level of enhanced services to this arrangement will take more See QoS, page 22

www.nwfusion.com

DSL reseller MegaPath adds T-1

BY MICHAEL MARTIN

PLEASANTON, CALIF. — ISP MegaPath Networks, until now exclusively a reseller of business-class DSL services, last month broadened its customers' access options by reselling T-1 service from competitive local exchange carrier Allegiance Telecom.

The move to sell T-1s should help shield MegaPath from the turmoil buffeting DSL wholesalers and increase MegaPath's appeal to businesses. But it's not a strategy other DSL-only ISPs are likely to emulate, says Jeff Moore, an analyst with consultancy Current Analysis, because the \$699 per month service is too expensive for wide customer acceptance.

"A price of \$699 is a good price for a T-1, but customer expectations for Internet access pricing are actually falling," Moore says, "so I don't know how many people this will attract."

With the incumbent local exchange carriers (ILEC) gradually extending DSL to more than 70% of their customer base, and satellite or fixed-wireless services available in some areas, businesses have less-expensive access options than T-1s for remote workers or branch offices, he says.

MegaPath, which serves 150 metro areas in the U.S., plans to use the T-1 service to reach customers it can't get to through DSL, says Harry Taxin, MegaPath's CEO. Where DSL is available from MegaPath's wholesale partners, Covad Communications and New Edge Networks, DSL will be the preferred

Branching out

MegaPath plans to use its new T-1 service to complement its DSL offerings.

T 1 service

- Provides 1.5M bit/sec dedicated bandwidth
- Designed for customers who can't get DSL.
- · Will cost about \$700 per month.

DSL

- Provides connections of up to 1.5M bit sec.
- Has distance limitations and a declining
 wholesaler has a
- Starts at \$400 per month.

access technology, he adds.

"With the DSL and T-1s, we can now go into an enterprise and offer to cover a higher percentage of their branch offices," Taxin says.

While the timing of the T-1 deal might make it seem as if it is tied to the impending demise of DSL wholesaler and MegaPath partner Rhythms Net-Connections, MegaPath has had the T-1 agreement in the works for a long time, Taxin says.

Getting the T-1 agreement in place before Rhythms begins turning off its DSL circuits, though, lets MegaPath keep some Rhythms customers it couldn't serve through Covad or New Edge central offices. Even some Covad customers are switching to the T-1 lines, he says,

See MegaPath, page 22





Eye on the carriers . Lisa Pierce

EVALUATING CLEC VIABILITY

ven in these turbulent times, many companies are still interested in using competitive local exchange carriers. In addition to examining price, infrastructure, technical expertise and support, would-be CLEC customers should obtain as much information as possible about providers' financial viability.

Granted, this isn't straightforward for privately held carriers, but it can often be inferred by studying a variety of factors, such as:

- The types of customers served CLECs that primarily serve the wholesale or ISP market, or whose revenue stream heavily relies on reciprocal compensation payments, are more vulnerable financially than those who serve retail customers.
- The types of services offered carriers that offer a broad portfolio of retail business-class services are of obvious interest to companies, and have a

better chance of weathering these tough economic times, compared with say, a provider that only offers one type of access and one type of service.

- The number of lines installed and their rate of change.
- Changes in coverage (geographical expansions or contractions).
- Personnel considerations, such as layoffs.
- The number of rounds (and timing) of venture capital financing or borrowing.

Customers should develop a policy regarding use of CLECs at the corporate level. Important evaluation factors include specifying: a minimal set of required services and features; required levels of customer support at every phase of using the service; the minimum level of acceptable savings the CLEC should guarantee in a contract; the official process for making such commitments across multiple sites; and identifying the personnel and processes necessary to oversee switching providers.

In developing this type of policy, some additional rules of thumb include:

- If you wish, allow local branches to experiment with a short list of first-cut CLECs for a short, specified period, but sign contracts at the corporate level.
- Don't switch carriers for less than 20% guaranteed savings, net of all costs — both internal and external.

Widely dispersed companies often prefer to use a single CLEC across multiple sites, and should request to be treated as a national account with a single point of contact and greater aggregate savings (30% or more) compared with the best deal the incumbent local exchange carrier (ILEC) says it will provide. This is one strong benefit of switching carriers — I've spoken with many customers who are still waiting to receive the same type of treatment from their ILECs.

As some customers have experienced, even some large alternate providers neglect to state firm installation due dates. Additionally, promised due dates are not always met. And customers often assume the alternative provider's quality is on par with the incumbent's, but this is not always the case. For these reasons, expect to migrate to a new CLEC over one to three months and retain full access to the ILEC for at least 30 to 60 days after the migration is completed.

It's prudent to retain some amount of access to the ILEC. The greater the risk associated with the CLEC, the more access diversity is required.

Pierce is a research fellow at Giga Information Group. She can be reached at lpierce@gigaweb.com.

QoS, continued from page 21

time, especially because ISPs are having difficulty determining how to bill their own customers for added QoS, Dolinov points out.

AT&T is offering an Internet access service that uses Diff-Serv to let users prioritize traffic from their router to AT&T's edge router. "We did this because the access link is where users see the biggest problems, especially in areas where it's difficult to get large circuits,"

says Rose Klimovich, director of IP services at AT&T.

Voice and other real-time applications can get top priority, while other traffic such as HTTP can be given lower priorities. But this class-of-service feature only goes as far as AT&T's edge router. Once a user's traffic hits the Internet, it's back to best-effort service.

AT&T plans to use MPLS but hasn't started deploying it. "MPLS will be deployed within our network for traffic management later this year, which is what MPLS is best at," Klimovich

says. "We may use it to build VPN services down the road."

Cable & Wireless will likely use MPLS to offer users a VPN service, but it has to ditch its ATM core and deploy IP MPLS gear, says Dave Garbin, senior director of network architecture at the service provider.

Cable & Wireless, like many of the large national ISPs, originally deployed ATM switches to handle higher traffic volumes at the core of its network. But ATM eats up more bandwidth than IP and doesn't scale well, Garbin says.

To better direct traffic at the core, Cable & Wireless has deployed Juniper switches in its network using MPLS. The company plans to have MPLS fully deployed by the end of next March.

Sprint is one of the only large ISPs that is not deploying MPLS. It believes MPLS is unnecessary.

"We continue to maintain that our basic engineering ... is still the best way to go," says Chris Clark, vice president of product management for Sprint E-Solutions at Sprint. "What you'll see today and in the future is 1P over glass. We don't need another system like MPLS that adds to overhead."

Sprint says its network will be IP over fiber optics no later than next January.

Sprint is looking at tech-

■ "We don't need another system like MPLS that adds overhead."

Chris Clark, vice president for Sprint E-Solutions, Sprint

nologies such as Diff-Serv for QoS, Clark says.

In addition to moving away from legacy technologies such as ATM in the core, Sprint is leaning on a tried-and-true traffic engineering technique to keep traffic loss and jitter as low as possible. When a path on Sprint's Internet backbone reaches 50% utilization, Sprint adds more bandwidth and resources to that path, Clark says. In essence, Sprint is throwing more bandwidth at its problem—is to offer companies a range areas and believes management and monitoring is the best way to offer users stable QoS.

"That's a good old-school approach," Dolinov says. "The fact is that in the U.S. there is a lot of dark fiber out there." As long as this is true, bandwidth is still one way to avoid congestion and provide QoS.

MegaPath, continued from page 21

because of concerns over Covad's long-term prospects.

MegaPath has also begun working with some regional Bell operating companies to resell their business-class DSL packages.

"Some of our customers want the ILECs as part of the package because they're worried about the CLECs," Taxin says. "Our survival tactic is to make sure we're not dependent on any one technology or supplier."

However, the RBOCs don't offer symmetrical DSL like the wholesaler CLECs. Instead their business-class offerings are based on asymmetrical DSL with speed and qualityof-service guarantees. One catch though, Current Analysis' Moore points out, is that many ILECs don't offer static IP addresses.

Ultimately, MegaPath's goal of technologies and services that will allow them to tie together their branch offices and remote workers.

"The idea is to blend these various access pieces together and offer a total package that's cheaper than what a customer could get from the ILEC," Taxin says.

Off-course Delivering QoS isn't a priority for most service providers because they have other issues to address. According to a recent report by Forrester Research, top issues include: Managing multivendor gear 23% Implementing scalable systems Provisioning and deploying services 18% Billing 14% Understanding customer needs Note: Twenty-two major service providers participated in the survey, with multiple responses accepted.

Tito Ade-Adisa, Senior Systems Engineer, Honda Research and Development

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Director of eBusiness Infrastructure and Services for the Cahners In-Stat Group, will share important research findings about remote workers and recent forecasts on remote communications spending.

· Peter Parish,

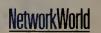
Director of Marketing for Converged Network Services for Sprint Global Business Markets Group, will explain how Sprint ION®, Integrated On-Demand Network, delivers high-speed, always-on broadband services, extending corporate capabilities to remote locations.

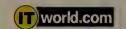
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Sprint ION







The Edge

Service provider developments at the juncture between the enterprise and the new public network

Briefs

Zhone Technologies last week announced it has acquired a collection of network access products from Nortel, including Nortel's AccessNode, Universal Edge 9000 Digital Loop Carrier and Universal Edge 9000 Remote Access. The products are used by carriers to extend existing networks. Terms of the deal were not disclosed. Zhone also said it will provide technical support for existing AccessNode and Universal Edge customers.

Zhone: www.zhone.com; Nortel: www.nortel.com

Salira Optical Network Systems, an IP/Ethernet systems provider for broadband access, announced the closing of \$17 million in Series B funding that was led by Softband Venture Capital. Vertex Management and venture capital firm WI Harper also participated in the round. As a result of the new funding, the company says it will add Gary Rieschel of SBVC to its board of directors. Salira will use the funding to continue its product development. The company says it expects to be in customer trials with carriers and enterprise customers early next year. Salira says the completion of this round of funding brings total investments in the firm to \$23.9 million.

Salira: www.salira.com

Remember Andy Ludwick? He used to be the head of Bay Networks before Nortel bought it, and before that he was founder of SynOptics Communications, a pioneering LAN hub maker. SynOptics later merged with Wellfleet Systems to form Bay. Ludwick is joining the board of Atrica, an optical Ethernet company that builds gear for metropolitan-area networks. He also sits on the board of Foundry Networks and Crossworlds Software.

A tale of two telecom bills

ANALYSIS

Proposed bills attempt to address shortcomings of 1996 act.

BY CARA GARRETSON

wo legislative proposals related to the Telecommunications Act of 1996 became hot topics in Washington, D.C., this summer and promise to spark heated discussion when Congress returns from its seasonal recess this month.

The proposals, which come down on opposing sides of the battle between

regional Bell operating companies and competitive local exchange carriers (CLEC), look to modify aspects of the 1996 act's competitive guidelines.

The telecom act was designed to loosen the exclusive hold the RBOCs have on local telephone services, but has been widely viewed as falling short of its goal.

"The Telecommunications Act was a

political compromise and a grand policy experiment," says Scott Cleland, an analyst with Precursor Group. The act is flawed because Congress attempted to apply the same rules outlining local phone competition that it used in setting long-distance guidelines, yet those two markets are wildly different, Cleland says.

Now, five years later, Congress is making noises about fixing it. "All this activity means that the Telecommu-

nications Act is in play and will remain in play until legislation passes on it some time in the future," he says. "There is consensus that there is a problem [with the act], there's just no consensus about what the right solution is."

The first bill, called the Internet Freedom and Broadband Deployment Act of 2001, is controversial because it proposes to lessen the competitive conditions

placed on the RBOCs by the 1996 act. Specifically, it would remove the requirement that RBOCs open local markets to competition before entering long-distance markets, in the name of spurring deployment of broadband services.

The bill was introduced in early spring by Rep. Billy Tauzin, R-La., and Rep. John Dingell, D-Mich. It passed the House of Representatives' Energy and Commerce Committee — of which Tauzin is chairman — in May, but the Judiciary Committee sent it back to the full House in June with a suggested amendment.

Pressure from the bill's sponsors in July failed to bring it to a House vote before the August congressional break, but hopes are high that will happen in September. "The sooner the better," says Andy Levin, minority counsel for the House Energy and Commerce Committee. "We need to get [the bill] out of the House and into the Senate."

Just before Congress recessed, another telecommunications bill surfaced, this one suggesting competitive guidelines set forth by the act be given more teeth.

The Telecommunications Competition Enforcement Act of 2001 was introduced into the Senate by Sen. Ernest Hollings, D-S.C., chairman of the Commerce, Science and Transportation Committee, along with Sen. Ted Stevens, R-Alaska, and Sen. Daniel Inouye, D-Hawaii. It aims to reinforce competitive measures by requiring RBOCs to functionally separate their wholesale and retail divisions, and follow a set of accounting practices for transactions between the two units. This change would prevent the RBOCs from selling needed telecommunication equipment to competitors at inflated prices.

Critics say the RBOCs have failed to make their networks open to competitors as the 1996 act specified, and that this is one reason so many CLECs have foundered in recent months. This bill would force a more level playing field in the telecommunications industry, sharply contrasting with the Tauzin-Dingell bill.

"Some want to deregulate the Bell companies and mistakenly assert that deregulation will lead to increased deployment of broadband services. I dis-See **Bills**, page 26

Somera shines in tough times

Used-gear vendor's business gets a lift in down market.

BY JIM DUFFY

SANTA BARBARA, CALIF. — Despite the current spending environment — and because of it — the demand for used network equipment is strong, according to a reseller of "de-installed" gear.

While manufacturers of new equipment are recording steep losses and laying off thousands of employees, Somera Communications, a 6-year-old company specializing in used-equipment sales and service, just wrapped up a record quarter.

Service providers might be spending less, but that means they're attracted to bargains when they do loosen their purse strings

"It's a challenging market time, but Somera has thrived and grown smoothly," says Jeff Miller, Somera's executive vice president for sales and marketing. "Due to the abundance of excess equipment, it's a more acceptable, sought-after solution."

Lots of excess network equipment has hit the market in the past year, due to the collapse of the dot-coms and the competitive local exchange carriers (CLEC). Somera sells this equipment back into carrier networks and also provides installation, integration and testing.

It's been a lucrative business so far. The company has posted 24 straight quarters of profitability and record revenue of \$60 million in the second quarter. Somera expects revenue for the year to grow 7% See Somera, page 26



3Com gear gives voice to DSL nets

BY PHIL HOCHMUTH

SANTA CLARA — 3Com this week will release two DSL gateways to help scrvice providers offer small businesses advanced services such as symmetrical high-density DSL and voice over DSL. While the markets for these two services have not yet taken off, 3Com and some analysts are betting they will.

3Com's OfficeConnect Gatcway ADSL and SHDSL products and voice expansion units are aimed at offices with up to 100 phone and PC users. Voice over DSL could let small offices consolidate voice and data into one DSL line, eliminating the extra costs of a separate phone service while providing high-speed Internet access.

Research First Consulting, which follows the telecom services markets, says that while business voice-over-DSL rcvenue should amount to only \$169 million for service pro-

viders this year, revenue will more than double annually, reaching \$7 billion by 2005.

3Com's asymmetrical DSL (AD-SL) and single-pair high-speed gateways come in a data-only version and a voice-compatible version with four phone ports.A voice-over-DSL expansion unit works

with both products and provides eight more phone ports.

Both gateways provide network address translation for security and support VPN tunnel initiation and termination using IP Security, Layer 2 Tunneling Protocol and Point-to-Point Tunneling Protocol. The voice versions of the products work with standard analog or digital phones and can be used to connect small-office PBXs or

key systems into **Broadband** reach a voice-over-DSL gateway.

From the end of Since 3Com di-2000 until the end vested its large of 2002, total switch and router U.S. broadband business and spun off its carrier eqsubscribers will uipment arm as a almost triple, rising semi-independent from 6.8 million business unit, to more than 19 3Com has continmillion. ued to sell enter-SOURCE: CAHNERS IN-STAT prise products directly to small

> new line of DSL products will be sold a little differently in that most users will probably buy or lease the customer premises equipment (CPE) from a DSL service provider or an incumbent or competitive local exchange carrier.

businesses. The

"There's been talk and some push to establish a more 'retail' model for DSL CPE," says Matthew Davis, a senior analyst with The Yankee Group. "But even on the low end, we haven't seen that great a deal."

3Com is working with Verizon, BellSouth and British Telecom in trials of the new singlepair high-speed DSL and voice-over-DSL products, according to Roger Sands, who manages 3Com's DSL business line. But he adds that voice over DSL is an early technology and that wide deployment won't begin until next year.

ADSL, the most-used DSL flavor, offers up to 8M bit/sec downstream and around 400K bit/sec upstream, while singlepair high-speed DSL offers up to 2.3M bit/sec both ways, making

it comparable to a leased line.

While not widely deployed now, SHDSL and voice over DSL are two "must have" features for DSL CPE, Yankee Group's Davis says. With 3Com's new gateways, service providers can supply DSL customers with data first, then move more easily into voice without replacing a lot of equipment.

The OfficeConnect Gateway ADSL and SHDSL cost \$600 and \$700, respectively, for data-only versions, with voice versions costing \$200 more. The Gateway Voice Expansion product for either box costs \$800.

3Com: www.3com.com

Somera, continued from page 25

to 10% over 2000.

Somera stocks it own inventory and also picks from a "virtual" inventory of assets owned by carriers and service providers. Somera acquires this equipment for its own stock or remarkets it jointly with the carrier.

The sales split is usually 60/40 in favor of the carrier under this arrangement, Miller says.

Somera also "redeploys" equipment on behalf of its carrier customers. When Alltel needed to turn up wireless service in a different region, Somera's distribution center in Atlanta collected the carrier's Lucent and Motorola analog cell sites and reconfigured, reinstalled and redeployed them in a different region for a fee.

However, since the dot-com and CLEC implosion, used equipment has appeared on online auction sites such as eBay with markdowns of as much as 90%. Miller says the impact of this to Somera's business has been immaterial.

"Is there overlapping? Absolutely," he says. "But we understand the technology, we represent the manufacturer warranty, and we stand behind the equipment," in addition to providing deployment, integration and testing services.

Has the bad economy been a bottomless bowl of cherries for companies such as Somera? No. Somera had its own downsizing in March, cutting 10% of

But when spending is tight and bargain hunting is in season, Somera bags the big

"In many aspects, we are thriving," Miller says. "We're atypical in the marketplace today and enjoying that."

Somera: www.somera.com

Funk tunes up Steel-Belted RADIUS for wireless

Authentication software improves accounting.

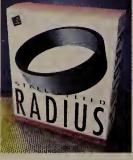
BY TIM GREENE

CAMBRIDGE, MASS. — Funk Software is making it easier for service providers to keep Mobile IP wireless sessions up and running as users move from cell site to cell site within new wireless networks.

An update to Funk's Steel-Belted RADIUS software for service providers manages the transfer of Mobile IP data to smoothly hand off sessions between wireless cells. Such handoffs require wireless network access points to tap session information from a Remote Authentication Dial-In User Service (RADIUS) about active devices that are moving out of range of one cell and coming

U.S. carriers will need this capability as they build Mobile 1P networks under the 3rd Gen-

into range of another.



Funk's Steel-Belted **RADIUS/SPE** enhances wireless support.

Project 2 (3GPP2) for wireless networks, says Jeff Phillips, an analyst with TeleChoice. "This will enable providers to bring [authentication, authorization and accounting] these new wireless networks," he says. Phillips says he is

eration Partnership

unaware of any other RADIUS vendors selling this feature.

Funk is selling the wireless support as an add-on to the base software package of its new Steel-Belted RADIUS/SPE Version 3.0, which is available now. Steel-Belted RADIUS accepts or rejects users attempting to access dial-up networks, such as an ISP. RADIUS authorizes users based on policies in a central database and keeps account of user activity once users have been admitted to the network.

Also new in Version 3.0 is the ability for Steel-Belted RADIUS to tap non-RADIUS data. Phillips says providers can use this feature to have the software check whether customers have paid their bills, and if not, deny them access. Alternatively, access could be granted, but with a message telling a user that his bill is overdue, Funk says.

In Version 3.0, Funk is adding what it calls spooled accounting, where accounting data from distributed RADIUS servers can be written to a central hard drive so providers can pull together a customer's billing information. If the billing system that needs the data is unavailable for some reason, Steel-Belted RADIUS servers will hold the data until the billing system is up again. Previously, there was no guarantee this data would be delivered to the billing system.

Steel-Belted RADIUS/SPE Version 3.0 costs \$20,000 per server for the base package and an additional \$20,000 for the wireless package.

continued from page 25

agree," Hollings said in a statement to introduce the bill to the Senate. "It is only through strengthening and enforcing the competitive provisions of the 1996 act that local phone markets will become open to competition and the delivery of advanced services will be enhanced."

The issue of whether more or less regulation is needed makes great fodder for politicians eager to tout the American public's rights to low-cost telephone service or warn about the dangers of government clamping down on business. But more importantly, Washington's recent focus on the issue means the shortcomings of the telecom act are likely to be addressed through legislative means. Whose side the new legislation will come down on is for Congress to decide.

Garretson is a correspondent with the IDG news service. Staff writer Michael Martin contributed to this report.



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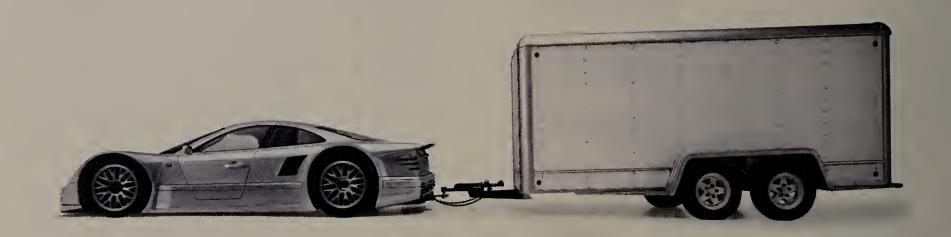
But the RS 16000 is more than the highest density router in the industry. As a full-function, Internet-caliber metro-optimized router, it also delivers rich service creation capabilities. Through hardware-based MPLS, bandwidth carving, and extensive billing and accounting, the RS 16000 converts raw bandwidth into profitable services for carriers throughout the Metropolitan Area Network.

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Enterprise Applications



Intranets, Messaging/Groupware, E-commerce, Security, VPNs, Network Management, Directories

Briefs

Microsoft last week unveiled Internet Explorer 6, making the latest upgrade to its Web browsing software available to users as a download from its Web site. IE 6 includes support for Platform for Privacy Preferences, a user privacy standard under development by the World Wide Web Consortium. The browser runs on Windows 98 and later versions of Microsoft's operating system.

Microsoft: www.microsoft.com

Waveset Technologies last week posted a free risk-assessment tool for download from its Web site for use in identifying dormant NT domain accounts. Dormant accounts can pose a security risk because intruders can use them to access corporate network services. Waveset is making the Inactive Account Scanner tool, which is part of its passwordmanagement product Lighthouse, available to draw attention to the problem of dormant accounts in the wake of the growing number of layoffs in the business sector.

Waveset: www.waveset.com

Red Hat last week said it would team with hardware maker Compag and system integrator Pioneer-Standard to provide an e-commerce suite for midsized companies. The software in the suite costs \$3,000 for a 12-month subscription; adding hardware for between \$2,500 and \$3,000, companies can have a full-service e-commerce system for less than \$10,000, Red Hat said. The package builds on the Red Hat E-Commerce Suite, and includes the open source e-commerce platform Interchange 4.8, the configuration tool CommerceLauncher, the Apache Web server, the Red Hat Database, and the Red Hat Network subscription service with software updates. The software is available now.

Red Hat: www.redhat.com

IN-SITE: Lessons from Leading Users

Consulting firm Zamba Solutions using its Brainz

BY JOHN FONTANA

here is no question who is the brains of the organization at Zamba Solutions.

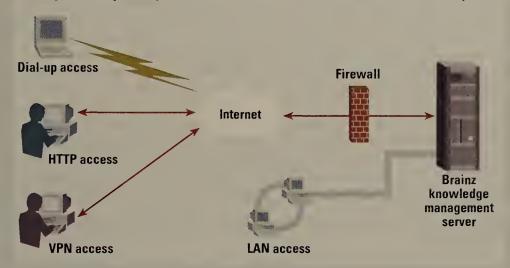
The consulting firm that helps companies set up customer relationship management software stores everything it knows in a central repository, affectionately called Brainz, that has become a historical reference to all its work and a staging area for servicing new customers.

Zamba is a company finding success with so-called knowledge management, the collecting and indexing of digital information from e-mail to text files. While knowledge management remains a phrase in search of a concrete definition, companies such as Zamba are mining gold from its basic concepts.

"The key is reuse of information," says Jeff McCall, executive vice president of internal operations for Zamba. "Generating information is all we do. There is no product for a consulting

Access options

Zamba Solutions offers end users three remote options for accessing its knowledge management repository. In addition, local users can access Brainz directly.



company except the knowledge we have to help our clients. The system captures our best practices and our knowledge and helps us become a learning organization."

The Brainz system has been in place for about eight months and is already paying dividends for Zamba, which has clients including Best Buy, General See **Zamba**, page 30

Tracking tool helps clean up Lotus environment

DYS Analytics software lets users identify and delete old accounts.

BY JOHN FONTANA

Lotus Domino administrators who want to identify and correct inefficiencies plaguing their networks have a new

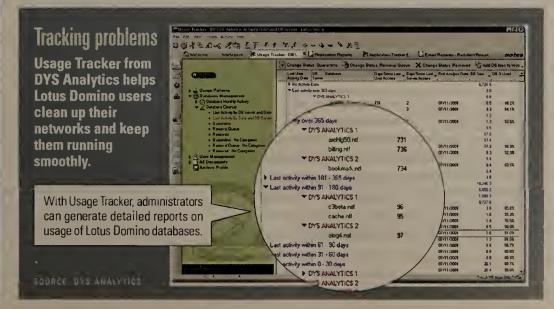
tool from DYS Analytics.

The company, known for its line of Control products for traffic management, recently shipped a new tool called Usage Tracker. The tool helps customers identify dormant user accounts, as well as applications that take up space on a Domino system and generate needless replication traffic. Usage Tracker also measures Domino database usage across a network so administrators can devise efficient load balancing and replication methods that can cut operational costs.

"We were able to clear out about 8G bytes of data after we identified our dead Domino databases and inactive accounts," says Gary Brueggemann, Lotus Notes administrator for Anixter, a global distributor of data communication products and electrical wire and cable.

The company has 40 Domino servers for 5,000 users. Brueggemann said he also located 100 Domino licenses that Anixter was paying for but not using.

"We are able to do user and database See Analytics, page 30



Enterprise Applications



Net Insider . Scott Bradner

NOT SO SURE BETS

f there's one thing that the network biz has had in excess it's unbelievable success stories. Unfortunately, most of these stories were written well before the results were actually in.

It's hard to count the number of times this and other publications, professional pundits and telecom research firms have declared victory in the telecom arena before a race actually started. SNA, APPN, ISDN, ATM, IPX, IP, PKI, a whole bunch of wireless variants, CLECs, DSL, cable modems, switches, routes, a pile of optical technologies, Fibre Channel, Lucent, Nortel, Cisco, network-based storage, peer-to-peer networking, the Grid, and untold-other-seeminglyimportant-at-the-time technologies and companies were all touted as going to take over the world.

But most have faded almost as fast

as they appeared. The full story has not yet been written on some, but I strongly doubt that any of them, other than maybe IP, will ever live up to the hype.

This is not a phenomenon limited to professional prognosticators. I spent most of last week with someone who is absolutely convinced that third- or fourth-generation wireless (3G or 4G) will alleviate the need for all other forms of access technology. In his mind, there will be no need for any type of wired broadband access service with 10s of megabits flowing through the ether. And he would brook no disagreement with that view.

With such a success-free history, why do folk of all types persist in making their assertions and predictions? We can ignore those who are in marketing and are just trying to sell a product (or raise venture capital) but that leaves a bunch of people who should have learned from history but seemingly have not.

Next are the analysis firms. You know the ones that predict billions of dollars in sales in three years for a product that has not yet made it to the market. I have no idea where they possibly have gotten the data on which they make their predictions — it seems most likely that it is data-free analysis. And they will keep at it as long as people will pay them for the results of the "analysis." What a different world it would be if these firms got paid partly upfront and the remainder three years later based on the accuracy of the predictions.

That mostly leaves amateur psycho-historians who, like amateur lawyers, assert with great vigor the imaginations of their own mind, reporters for trade publications who blindly quote the wild predictions, and folks like me who write for those trade publications. The reporters' actions can be understood by the combined pressure of deadlines, few real facts and good marketing people. But I see little excuse for us writers to fall for the marketing. ("Marketing" is not the word I would use if it were not for the polite nature of this publication.) But too often we do.

Disclaimer: Harvard does OK in the marketing department but the above disbelief is mine and not the university's.

Bradner is a consultant with Harvard University's University Information Systems. He can be reached at sob@sobco.com.

Zamba, continued from page 29

Mills, Hertz and Progressive Insurance.

McCall says he is not measuring the system's worth in dollars, but in time saved.

He says a project team for a Chicago client was recently able to discover through Brainz that another team was doing a similar project in Silicon Valley. The two could quickly share data, which the Chicago team used to win the deal and jump-start the implementation process.

"Prior to Intraspect, this type of interaction between tcams would have developed only through personal knowledge of what other teams were doing around the rest of the country and the world," says McCall. "It wasn't exactly a consistent, scalable model."

Brainz, which is built on Intraspect 4 from Intraspect Software, is a Web-based system that catalogs electronic documents and e-mail into a searchable electronic repository. The repository is built like a file cabinet, with top-level cabinets holding client folders and subfolders. Users can file documents into the folders, building a history of work in progress or completed. They also can send e-mail directly into the folder to capture discussion threads with clients.

The results are fully indexed and searchable.

Eventually, clients will be given access to portions of their project folders through use of Intraspect's access control features.

All of Zamba's 300 employees have Brainz as the home page on their browser and can access it from the Internet, a VPN or a dial-up connection. The home page can be customized to include relevant project folders and notifications of changes made to any folder or Web site a user wants to monitor.

The ease of use also extends to IT.

"IT is in charge of making sure it is backed up and so forth, but the end users can run 90% of the system," including setting up new users, McCall says. "We did not want to build a knowledge management group where we had to think about how things were structured, or have full-time people analyzing how the knowledge is managed."

The system is run on Windows NT 4 using one primary and one back-up Dell dualprocessor 933-MHz server with 2G bytes of RAM and 18G-byte internal hard drives. Zamba also uses a Dell storage-area network that currently holds 250G bytes

After Zamba built the techni-

cal side, McCall says it quickly overcame the culture issues inherent in a knowledge management system, namely getting people to use it.

"As long as it doesn't take me any longer to do it this way, the end users don't have a problem with it," says McCall.

It was that ease of use that led Zamba to choose Intraspect over other products from eRoom, Lotus or Microsoft.

McCall says Zamba offers one- to three-hour training classes and a self-paced training guide to get users up and working quickly. "Actually, people are anxious to do it because frankly it makes their life easier."

And it makes Zamba's life easier as it attempts to grow into a larger organization.

"The three biggest benefits are that we can get employees up to speed quicker; we can react more quickly and more effectively; and on the delivery side, we are learning from successes and mistakes."

And it doesn't take a brain surgeon to figure out the competitive advantages of that.



Analytics, continued from page 29

cleanup much easier now. It's a task that never seemed to get done quite right in the past," Brueggemann says.

Anixter now checks its user and database accounts monthly and completes the task in a few days instead of a week.

Anixter also uses Usage Tracker to determine how many replicated copies of a database exist and how many are actually needed, and to pinpoint where databases are most accessible to users as a way to slash WAN traffic.

"We've moved from an open environment where administrators tweaked systems to a change management environment where we can see how changes effect our network," says Ron Meyers, manager of Lotus Domino Systems for Anixter.

Meyers did not want to give out actual cost savings, but said man hours, meetings, and trial-and-error troubleshooting sessions have been greatly reduced.

Usage Tracker ships with more than 50 stock reports, including database activity to see how often databases are used, and user monitoring to determine who is using Domino applications and the network route they take to access them.

"Usage Tracker helps organizations clean up their environment if they are moving from 4.X to R5 or planning for RNext," says Maurene Grey, an analyst with Gartner.

"It also helps make operations more cost effective, which can reduce operational costs," Grey adds.

Grey says Usage Tracker provides the kind of features Microsoft Exchange users have been getting from BindView and its by-Control product.

Usage Tracker is being added to DYS Analytics' Application Control product, which also includes Application Tracker.

The software is available now. Pricing starts at \$7,200 for an enterprise license covering 1,000 users.

www.nwfusion.com





Technology Update

An Inside Look at the Technologies and Standards Shaping Your Network

Dr. Internet



By Steve Blass

We have to connect external clients through our corporate Web page, which runs on a Windows 2000 server that sits be-

hind a firewall. The Win 2000 Web server is in a demilitarized zone (DMZ) with a Sun server. The Win 2000 server must request pages to get access to **Oracle applications on the Sun** server. The pages aren't displayed when you connect through the 'Net, but are accessible from within the LAN. The servers are multihomed with one connection for the internal LAN and one for the DMZ, and they both have reserved addresses in the 10.X.X.X and 10.X.10.X range. How do I get the pages to display to the external clients?

To connect from the Internet to a DMZ Web server with an IP address on the 10.X network, you need a network address translation (NAT) rule in your Internet firewall/router that maps a valid Internet address on the Internet side of the firewall/router to your DMZ Web server address. The 10.X.X.X addresses are not routable over the Internet, as they are reserved as private IP network addresses for use in organizational intranets.

Another approach is to use a VPN to connect Internet clients to your internal 10.X.X.X network, which would let traffic get back to clients through the VPN connection without opening the server to pedestrian Internet access. The VPN will provide authentication, authorization and privacy capabilities beyond those provided by NAT.

Blass is a network architect at Change@Work in Houston. He can be reached at dr.inter net@changeatwork.com.

IEEE 802.16 for broadband wireless

BY WILLIAM STALLINGS

n recent years there has been increasing interest shown in wireless technologies for subscriber access, as an alternative to traditional twisted-pair local loop.

These approaches are generally referred to as wireless local loop (WLL), or fixed-wireless access. To provide a standardized approach to WLL, the IEEE 802 committee set up the 802.16 working group in 1999 to develop broadband wireless standards.

IEEE 802.16 standardizes the air interface and related functions associated with WLL. Three working groups have been chartered to produce standards:

- IEEE 802.16.1 Air interface for 10 to 66 GHz.
- IEEE 802.16.2 Coexistence of broadband wireless access systems.
- IEEE 802.16.3 Air interface for licensed frequencies, 2 to 11 GHz.

The work of 802.16.1 is the farthest along, and it's likely that it will generate the most interest in the industry, as it is targeted at available frequency bands.

An 802.16 wireless service provides a communications path between a subscriber site and a core network (the network to which 802.16 is providing access). Examples of a core network are the public telephone network and the Internet. IEEE 802.16 standards are concerned with the air interface between a subscriber's transceiver station and a base transceiver station.

Protocols defined specifically for wireless transmission address issues related to the transmission of blocks of data over a network. The standards are organized into a three-layer architecture.

• The lowest layer, the physical layer, specifies the frequency band, the modulation scheme, error-correction techniques, synchronization between transmitter and receiver, data rate and the time-division multiplexing (TDM) structure.

For transmission from subscribers to a base station, the standard uses the Demand

Got great ideas?

Network World is looking for great ideas for future Tech Updates. If you've got one, and want to contribute it to a future issue, contact Features Editor Neal Weinberg (nweinberg@nww.com).

Assignment Multiple Access-Time Division Multiple Access (DAMA-TDMA) technique. DAMA is a capacity assignment technique that adapts as needed to respond to demand changes among multiple stations. TDMA is the technique of dividing time on a channel into a sequence of frames, each consisting of a number of slots, and allocating one or more slots per frame to form a logical channel.

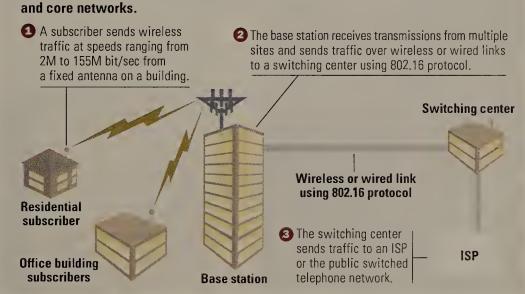
With DAMA-TDMA, the assignment of slots to channels varies dynamically. For transmission from a base station to sub-

In the downstream direction (base station to subscriber stations), there is only one transmitter, and the MAC protocol is relatively simple. In the upstream direction, multiple subscriber stations compete for access, resulting in a more complex MAC protocol. In both directions, a TDMA technique is used, in which the datastream is divided into a number of time slots.

The sequence of time slots across multiple TDMA frames that is dedicated to one subscriber forms a logical chan-

HOW IT WORKS 802.16

IEEE 802.16 standards define how wireless traffic will move between subscribers



scribers, the standard specifies two modes of operation, one targeted to support a continuous transmission stream (mode A), such as audio or video, and one targeted to support a burst transmission stream (mode B), such as IP-based traffic. Both are TDM schemes.

• Above the physical layer are the functions associated with providing service to subscribers. These functions include transmitting data in frames and controlling access to the shared wireless medium, and are grouped into a media access control (MAC) layer. The MAC protocol defines how and when a base station or subscriber station may initiate transmission on the channel. Because some of the layers above the MAC layer, such as ATM, require quality of service, the MAC protocol must be able to allocate radio channel capacity to satisfy scrvice demands.

nel, and MAC frames are transmitted over that logical channel. IEEE 801.16.1 is intended to support individual channel data rates of from 2M to 155M bit/sec.

• Above the MAC layer is a convergence layer that provides functions specific to the service being provided. For IEEE 802.16.1, bearer services include digital audio/video multicast, digital telephony, ATM, Internet access, wireless trunks in telephone networks and frame relay.

The best way to track the progress of the standards is at the IEEE 802.16 Web site, http://grouper.ieee.org/groups/802/16/index.html.

Stallings is the author of Wireless Communications and Networks (Prentice Hall). He can be reached at us@shore.net.

Technology Update



Gearhead, inside the network machine. Mark Gibbs

SECURING FTP

e finished our discussion of FTP services last week by picking on everyone's favorite technology whipping boy, Microsoft. And this abuse

was not gratuitous: The Microsoft FTP service in Internet Information Server (IIS) certainly isn't slick. It is also, as we discussed, not exactly security minded.

Where security is an issue, there are a few better systems to choose from. One interesting one is from Glub Tech (www.glub.com).

The client side, which is free, is called Secure FTP. It supports secure connections to FTP servers that support Secure Sockets Layer (SSL). The company plans to add support for Kerberos and onetime passwords in future releases.

The client, written in Java, requires Java 2 Runtime Environment Version 1.3+, and runs on Windows, Mac OS X and Unix. The client can run as an application or an applet (except with Mac OS X) when used in conjunction with Sun's Java Plug-In (http://java.sun.com/ products/plugin/). This FTP client implementation only encrypts the command channel, so the data channel is not secured. If you want to be certain about the privacy of files, you'll have to encrypt them some other way. May we suggest Cryptext?

This freeware application integrates with the shell under Windows 95, 98, NT4, 2000 and Millennium Edition, so you can encrypt and decrypt files using the context menu (right mouse click). Cryptext uses a combination of SHA-1 and RC4 encryption algorithms with a 160-bit key.

How good is a 160-bit key? From the author's Web site (www.pcug.org.au/ ~njpayne/): "We can make a small calculation on what is needed to break a 160-bit key....With 160 bits in the key there are 2 to the power of 160 possible keys. It takes on the average, half that many attempts to find the correct key. [If] there are 1 billion computers in the world, [and] every computer is devoted full time to breaking your key, each computer can test 1 billion keys per second [and] ... it will take about [100,000,000,000,000] years to find the key."

Neat stuff. Anyway, back to FTP.

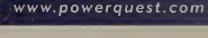
The FTP server has to understand SSL connection so Glub offers, for \$30, its Secure FTP Wrapper, a Java front end for most FTP servers that intercepts requests on port 21. It unwraps SSL connections and passes on the commands to the FTP server and vice versa. The current version only supports Glub's Secure FTP client, but the company plans to support others.

A more developed SSL-enabled FTP server for Win 2000 and NT is WS_FTP from Ipswitch (www.ipswitch.com/ Products/WS_FTP-Server/). It costs \$400.WS_FTP Server has an extensive feature list, including many security attributes, and unlike the Microsoft IIS FTP service, the site command and stat command don't give anything away. One feature is the ability to have a program or batch file invoked whenever a specific event, such as a logon, occurs.

Ipswitch also has an FTP client called WS_FTP. The Pro version (\$40) is SSLenabled, has a slick user interface, scripting for automating routine tasks, sophisticated firewall support, multiple session support and browser integration.

Next week . . . well, we'll keep that

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pinions

Editorial

A community approach to development projects

ondering how you might get more out of your geographically scattered software development team? Or how you might collaborate with your key suppliers on a new PDAbased order entry tool?



A company called Quovix (Quovix.com) will soon announce a collaborative software development environment it created to marshal the energies of the free agent developers it uses to drive its custom software business.

Founded two years ago by Martin Morrow, who spent 18 years in software at Eli Lilly, Quovix says it has packaged its collaborative developer

experience in a Java-based product called Community Builder. The product is designed to simplify the task of jobbing out projects in large development groups, but also can form confederations of internal and external developers.

Quovix already uses Community Builder to manage the efforts of 400 freelance developers. Here's how it works:

Quovix lands a contract for a software project, specs out the job and puts it up on its Web site for developer consideration. If the community agrees that this is a job the company should take on, Quovix assigns a value to the project and puts it up for bid.

While developers try to beat each other's bid, the project is ultimately assigned based on what the company knows about the particular programmer's experience and skills.

To help track that, Quovix uses a system of reputation points. Each project is worth a certain number of points. A \$10,000 project might be worth 30 points. As you earn them, the points help you land more projects. For example, if you bid \$9,000 on a \$10,000 project and you have 31 reputation points, your bid would actually come in at \$8,900, giving you the edge over others with less Quovix experience.

Once a project is awarded, the community can take advantage of Quovix' virtual project room. Among other things, this Web tool houses all the documents associated with the project, a list of team members and contact information, and discussion threads.

All this — the community building and collaborative development tools — is what Quovix has packaged for sale in Community Builder.

Even if it isn't for you, the company might be a good resource for that wireless app you haven't been able to get off the ground.

> - John Dix Editor in chief jdix@nww.com

Message Queue

Power up

In his column "A modest proposal for the Zeroeth Layer" (www.nwfusion.com, DocFinder: 5823), Thomas Henderson deserves credit for highlighting the importance of power and grounding of network hardware and installations. At the same time, there are many existing standards and tests — applicable to equipment and installations — that he did not mention.

Look at the detailed spec sheet for a switch or router and you'll see references to a whole range of standards. For example, the IEC 601 series (and its ANSI equivalent) covers testing for immunity to different types of overvoltages (including the ring wave induced in power lines by lightning), static discharge, and radiated and conducted radio frequencies. For larger carrier-class switches and routers, you may see references to the Bellcore Network Equipment Building System standard, which covers a range of environmental tests, including withstanding shocks due to earthquakes.

Facilities such as offices, network operations centers (NOC) and data centers are subject to national electrical codes and any applicable regional codes. As well as covering electrical aspects, the U.S. National Electrical Code and Canadian Electrical Code specify how incoming copper communications cables must be protected against overvoltage and overcurrent conditions occurring outside buildings.

Henderson's column refers to a series of natural disasters that these days are becoming commonplace. However, shutting down a NOC in the face of an incoming electrical or other storm seems counterproductive. Why not equip the facility in the first place to withstand electrical storms and power outages? Or if it's already built, consider upgrading it.

Evan Gamblin Senior consultant The Halifax Group Ottawa

NO PARTY TO PLAGIARISM

I was quoted in Paul McNamara's 'Net Buzz column "Web imitation isn't just flattery" (www.nwfu

sion.com, DocFinder: 5824). I resent the column's implication that I had prior knowledge of or was in any way a party to the alleged plagiarism of a press release and FAQs at the WebSitePulse.com Web site.As I told McNamara, I was considering helping WebSitePulse.com with its marketing, but had not done any work for them at the time we spoke, nor have I since.

McNamara's remarks about our conversation state that I am a "party to other shenanigans involving customer testimonials on the site." The implication of this statement is that my testimonial at the WebSitePulse.com Web site is somehow related to other testimonials and/or that my testimonial is somehow not genuine.

What McNamara didn't say in his column was that I told him I have been using the WebSitePulse.com service for several of the Web sites under my control, including the site referenced in my testimonial, and that I am very pleased with the service.

I further resent the placement of my remark, "If you've been on the Internet for any length of time ... you know this kind of thing goes on all the time." The implication is that I condone plagiarism, which I do not. McNamara didn't include what I said after that remark, which was that I have had my own work plagiarized and that there is unfortunately not much that I or anyone can really do about it.

> Nick Nichols Online marketing consultant GetSalesNow.com Heathrow, Fla.

NOT ALL-INCLUSIVE

"Managing the Windows mixed-mode monster" (www.nwfusion.com, DocFinder: 5825) contains great information. Many corporate administrators feel you should get all the tools when you buy the operating system. However, it is an operating system and not a management system. I have been to several Microsoft seminars where they state they don't intend to provide all the management tools.

Ken Scott Senior network specialist Via Christi Regional Medical Center Wichita, Kan.

E-mail letters to jdix@nww.com or send them to John Dix, editor in chief, Network World, 118 Turnpike Road, Southborough, MA 01772. Please include phone number and address for verification





Management Mode . Jeff Shapiro

Breaking up isn't always hard to do

ecently it became clear to me that it was time to leave my present job and find new challenges. I'll bet many of you have experienced something similar. IT managers are often brought into complex situations. Sometimes the complexities involve personnel, sometimes technology, sometimes vision and sometimes a combination of these. Whichever the motivator, it's our job to make the complex simple again.

If you're good at your job, you'll sometimes find that once you've resolved all the issues, there's no challenge left. That sort of thing usually happens in old, established companies or organizations. More dynamic companies invent new challenges as you're working on the older ones, so you'll never be bored and you'll never be "done."

As for me, I tendered my resignation a week ago. By doing this I'm breaking one of the cardinal rules of job hunting: "Never leave a job until you have a new one." But generalizations can't always be trusted. Sometimes circumstances combine to make leaving the best possible choice, and for me

this is definitely true. The opportunity to work creatively is a very important part of my job satisfaction. When those opportunities are exhausted, my job satisfaction goes way down.

There's another good reason for considering a change. Another important

rule states: "If it isn't fun, it isn't worth doing." Having fun in your job is massively important. If you don't like your job, you don't like your life. If you don't like your life, you probably don't think a lot of yourself, either.

Some of you may not have the financial resources to be out of work for a while. If that's your situation, then you obviously shouldn't jump now. Wait. Plan. Investigate new opportunities. You'll be amazed at how much better you'll feel just by deciding to do something.

If you think it's time for you to go, leave on good terms. Be discreet and respectful toward your current employer. They deserve your loyalty by having trusted you and your job skills since they hired



you. Get a letter of recommendation before you leave. Don't use company resources in your search; remember that e-mail isn't private and your employer could discover what you're doing long before you want them to know. When it's time to leave, leave happy. Look back

at all you've accomplished and realize that the organization is a better place for your having worked there.

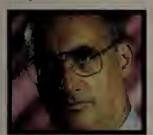
Other than taking flight without knowing where I'll land, I'm trying to follow my own advice. Luckily I have a few options. I'm looking at job opportunities in South Florida (I've had this crazy idea about living on a boat for a long time), I still have my Cisco CCIE to finish, and I might do some consulting. It's time for me to spread my wings — and fly.

Shapiro is (for a little while longer) the director of technology for the Kingsport, Tenn., City School District. He can be reached at jshapiro@kpt.k12.tn.us.

Yankee Ingenuity . Howard Anderson

Wireless Tower of Babel is set to collapse

hen Herbert Hoover was U.S. secretary of commerce, he did the nation a great service: He standardized everything — the size of nails, the width between rails on the railroad and so on. This reduced the inventory levels that companies had to keep, increased volumes, drove down prices and helped the U.S. maintain hegemony over the com-



mercial world. Probably the last positive thing Big Government has done.

Today's wireless industry could learn from Hoover. What we have in wireless today is a Tower of Babel: a bunch of incompatible approaches, communicat-

ing with one another, mainly by rumor — which means not at all.

We have always let the market decide. If any standard can win over the largest volume, then that standard becomes the de facto standard — and we don't have to worry about a de jure standard. Remember Sony's Betamax vs. Panasonic's VHS? The market winner wins.

Except, every once in awhile, it helps having somebody — hell, anybody — be the tiebreaker. Maybe you noticed that NTT DoCoMo took a \$10 billion stake in AT&T Wireless. AT&T was using the Time Division Multiple Access (TDMA) standard, but it will (surprise!) move to the Global System for Mobile communications (GSM) standard and eventually to the third-generation (3G) wireless standard that NTT DoCoMo currently is testing. If you are among those people who think that NTT DoCoMo

would like to buy AT&T Wireless one day, you can see the logic of both companies adhering to the same standard.

Usually if one company does one thing, its competitors will do the opposite, but not in this case. Cingular Wireless will follow AT&T Wireless and drop its support of TDMA.TDMA was a great technology — in its time, and its time is up. In a world where data is king, TDMA was voice only.

Last year also marked Deutsche Telekom's purchase of VoiceStream. Until AT&T Wireless's announcement last December, VoiceStream was the only major U.S. carrier to favor GSM. Deutsche Telekom, like all of Europe, will move from GSM to the Wideband Code Division Multiple Access (W-CDMA) standard. Understand that 12 months ago, no U.S. vendor was supporting GSM. Now we have three major carriers, two of which have been influenced by post, telegraph and telephone administrations — and money (Cingular isn't owned by a foreign carrier). What is interesting is that the venture capital industry hasn't really backed companies in the 3G area. That may change.

The rest of the major U.S. players (Sprint, Alltel, Verizon) are lining up behind CDMA. Now understand that most users couldn't give a damn if we went GSM, CDMA or bushel basket. All we really want is great national coverage. We aren't really concerned with date rates because we haven't bought into higher date-rate applications.

In addition to the carriers going CDMA and those migrating to GSM, you have Nextel, which is an intriguing company. Nextel is an outlier in the wireless standards territory — it has an 800-MHz

service, which is a different spectrum than AT&T, Cingular, Sprint and everyone else. Nextel runs on yet another standard, called integrated Digital Enhanced Network (iDEN), which has one distinctive advantage: a "push to talk" feature that businesses love because it is the ultimate in hands-free dialing — it's like using an intercom, allowing a user to go office to office.

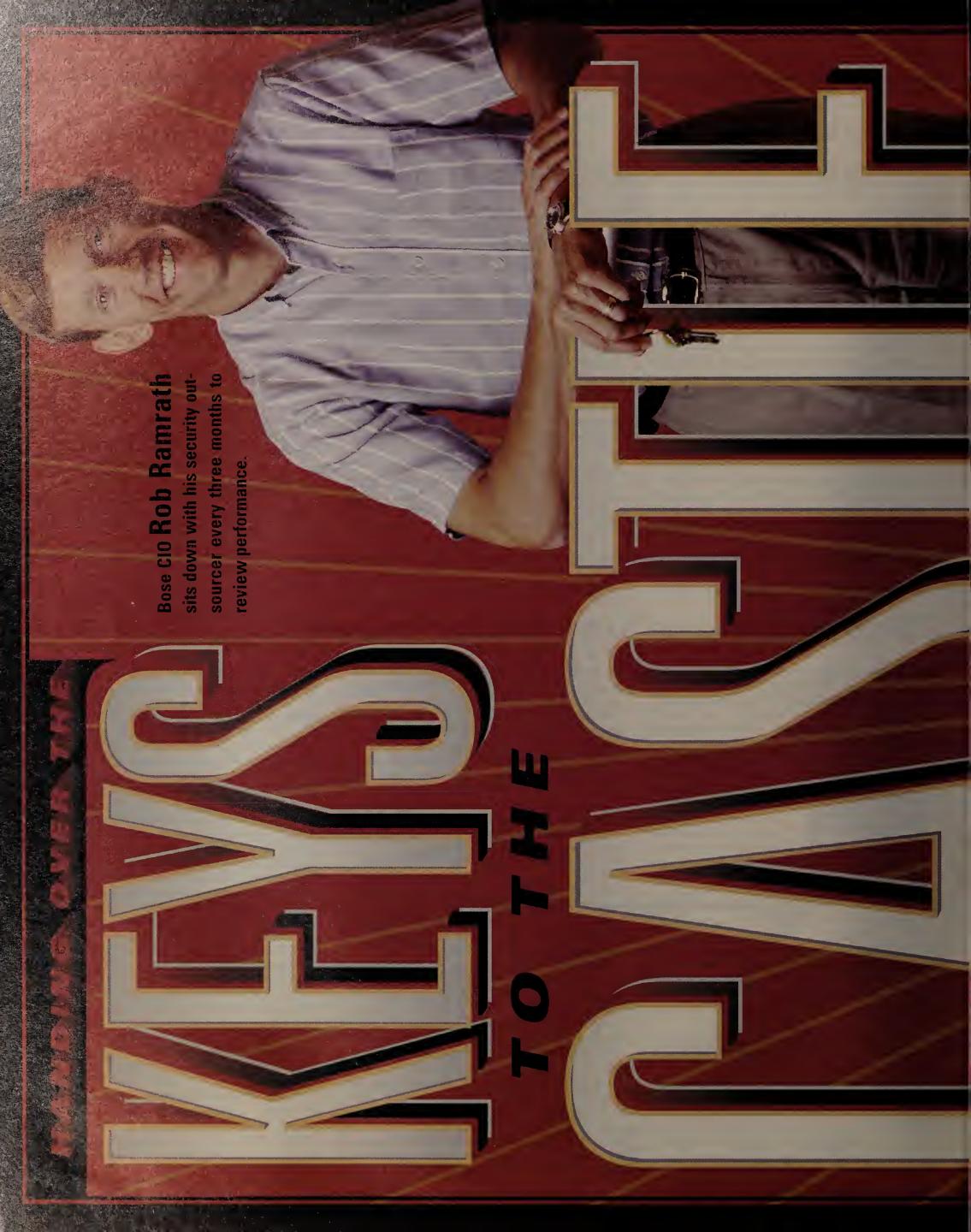
Given these three digital wireless standards — CDMA, GSM and iDEN — the U.S. will be moving to digital and abandoning analog, right? Uh, no. There is still a lot of money tied up in analog systems, so they may be around for a long time. Meanwhile, the European carriers have ponied up \$150 billion to bring a new, improved version of 3G to Europe so that some day you can watch video on your cell phone.

My guess is that 2.5G will suffice in this country. Every standard that is expensive and overhead-laden seems to fall by its own weight (remember Open Systems Interconnection?), and 3G is in this category.

As screwed up as the wireless situation is in the U.S., the Europeans are going to be even more screwed up. But in the U.S., it's not just equipment manufacturers competing against one another — two of the carriers (AT&T Wireless and Voice-Stream) will be influenced by foreign PTT agendas.

Where's Herbert Hoover when we need him?

Anderson is senior managing director of Yankeetek Ventures, a Cambridge, Mass., venture firm. He is also founder of The Yankee Group and the William Porter Distinguished Lecturer at the Massachusetts Institute of Technology. He can be reached at banderson@yankeetek.com.



ed security professionals and financial concerns drive companies to outsource network security. Lack of train

H S S A 0 Y Ţ × H 8 M M 8

ng an adequate job using its own staff to k from hacker attacks, but the company more forward-looking and coordinated AN-related needs. ose Corp. was doi protect its netwo wanted to take a approach to its W

CIO Rob Ramrath "But we were mostly looking in the rearview involved combining Internet access, Web pment and VPN services with managed ity] when we did it ourselves," says Bose cing agreement, Ramrath says. Genuity s one firewall at Bose's main office in makes high-performance audio equipe the situation we had and position it for Framingham, Mass., as well as the firewalls in front of Bosc's Web its security function in 1998 to Genuity ty's network operations center. We were good at [secur So Bose, which mirror. We wanted to tal hosting, extranet develo security in one outsour maintains and monitor servers located in Genui ment, outsource the future." That future

companies that has gotten over its iniought of giving control of security to an tial trepidation at the th Bose is one of many outside vendor.

The driver for outsourcing security for many companies is the belief that up-to-date security measures involve more vadays, you also need things like intrusion detection, round-the-clock monitoring and elec-The downside is these approachseople to make sure the applicaand function properly. tronic fraud prevention. than just a firewall. No tions are integrated well cs require highly skilled

ce tag associated with hirork security professionals, ardless of their size — are going the outsourcing re ing and retaining netwo To avoid the high pr many companies 🗕

two years ago that organization needrewalls, but he realne on staff with the ime and resources Ron Hilliard decided ized he didn't have anyc his health maintenance ed help monitoring its necessary knowledge, to do the job right.

keeping someone edge and who was up to date on the current [security] technetwork engineer in Detroit, "And someone would rewall and would in-house with the know nology," says Hilliard, a "The biggest part was ike a change to the fi at Health Alliance Plan here were days when or be on vacal

rious companies rd looked at va

that specialized in outsourced security services, sought guidance from Gartner analysts and consulted with his peers before selecting Atlanta's Internet Security Systems (ISS). Currently, Health Alliance Plan contracts with ISS to monitor nization's Check Point 4.0 VPNs, which connect Health Alliance its four firewalls for computer viruses. ISS also set up the orgato its customers and a trading partner.

"I couldn't hire a person for a year for what [Telenisus is] doing

for me over two years," he says.

\$100,000 per year.

Guetzloff chose Telenisus last November because the company

imity to R.R. Donnelley, a 34,000-employee global printing and

information services company in Chicago. Guetzloff says Tele-

nisus'offering was the maturest at the time.

agreed to be flexible with contract terms and because of its prox-

"We depend heavily on the Internct to transfer files on what

we're printing for customers," he says. "These files have to

And he's pleased with the way things have turned out. Guet-

move around 24 hours a day, seven days a week."

"because I have a bunch of experts" watching it, Without Tele-

nisus, "I'd have to hire a support guy who wouldn't necessarily be

as educated on the latest security issues," he says.

zloff says he's more confident that his network is being protected

walls. Guetzloff, senior director of enterprise services at R.R.

zloff's decision to hire Telenisus to monitor his company's fire

Donnelley & Sons, figures that "a good firewall guy" would cost

Although Hilliard estimates that Health Alliance saves rity services to ISS, there's a part of him that would still like to bring security back under his control. "I would love to bring technical savvy to do that." Hilliard says. "You're handing over the keys to the castle. But it's better to hand over the keys than between \$20,000 and \$30,000 annually by outsourcing its secuthat technology back in-house, but right now we don't have the to open yourself up to an attack."

Saving money was the driving force behind Richard Guet-

SLAs are key SUCCESSFUL COMPANY

its firewall application and responds to security events

in accordance with the terms spelled out in the SIA. The agreement also covers reaction processes for Ramrath and his IS team meet with Genuity staffers

security breaches, reaction times and repair times

every three months to review Genuity's work

for the previous three months. During these

meetings, the two teams discuss problems that

arose, whether service levels were missed

how cooperation can be improved and how

leverage Genuity's services in the future

Genuity's standard SEA for its managed tire

wall service is 99,9% upinae, while a high-

Genuity implements Bose's policy changes, monitors

One of the most important items to consider in an out

sourced security deal is the service-level agreement (SLA).

late April, Pilot Network Services, a publicly da, Calif., abruptly closed its doors. The swifttraded security outsourcing company in Alameness of the shutdown caused one customer to send members of its own staff to Pilot's data center to keep its servers and secure connections running.

poor execution of its business plan and the company's inability to effectively differentiate its offering from those "If you want to say something was broken, it wasn't the market demand, it was the business execution," says Analysts say Pilot's closure probably resulted from a of newer players in the managed security services market.

Eric Hemmendinger, an analyst at Aberdeen Group.

What finally did Pilot in, he says, was its inability to find secondary sources of cash from venture capitalists, in a secondary public offering, or by taking the company - Kimberly Caisse

Pilot's basic offering was a soup-to-nuts portfolio of services, an expensive alternative when other companies were willing to segment their offerings to fit customer needs, according to Hemmendinger

The expense of running its own data centers also caught up with the company.

Feature

ISS engineers implement them. Each ticket is labeled urgent, serious or unimportant. When Hilliard talks with an ISS engineer, he says he gets consistent service no matter which engineer it is.

By outsourcing firewall monitoring and intrusion detection to Telenisus, R.R. Donnelley has a group of security

experts watching the integrity of the firewall rule changes, and has servicelevel agreements that guarantee availability "all the time" and a high level of responsiveness, Guetzloff says.

Telenisus agreed to make missioncritical firewall changes within an hour, and all other policy changes within 24 hours, he says. "Telenisus oversees the policy changes to make sure we don't put ourselves at risk," he says.

This kind of prevention could be the most compelling part of outsourcing security management and monitoring. "It's going to keep [the customer] ahead of the hackers," says Jon

Forcade, director of product management at Telenisus.

Implementation issues

After Health Alliance selected ISS, the outsourcer visited Health Alliance's corporate office in Detroit to install several Unix servers and modems in the data center, Hilliard says. Health Alliance also runs Web servers in the data center.

Outside the data center are four Check Point firewalls with Check Point 4.0 VPN software and ANX encryption. Behind the firewalls are two Cisco 4000 and 7000 routers and a Cisco ES 5500 switch. The ES 5500 connects to the Cisco 2900 workgroup switches on each floor of the building.

A WAN connects the corporate office to the organization's other main office in Southfield, Mich., and four field offices around Michigan. ISS monitors Health Alliance's firewalls via a secure Internet connection to the data center in Detroit.

ISS's managed security services center in Atlanta monitors all the traffic sensors in an organization, typically with firewalls made by Check Point, WatchGuard and

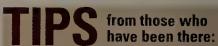
Telenisus and Genuity provide managed security services to customers as part of a larger package of network services. After working with a customer to determine the security needs, Telenisus security engineers set up monitoring equipment at the company's security center in Chicago and at the customer site. Customers can assess whether Telenisus is meeting terms of their SLAs via a Web portal.

"Security is more of a series of processes, a chain of events, we set up with a customer," says John Summers, director of product strategy at Genuity. Once the process, commonly known as event escalation, is established, Genuity begins to monitor a customer's routers, firewalls and Web servers via its network operations center in Burlington, Mass.

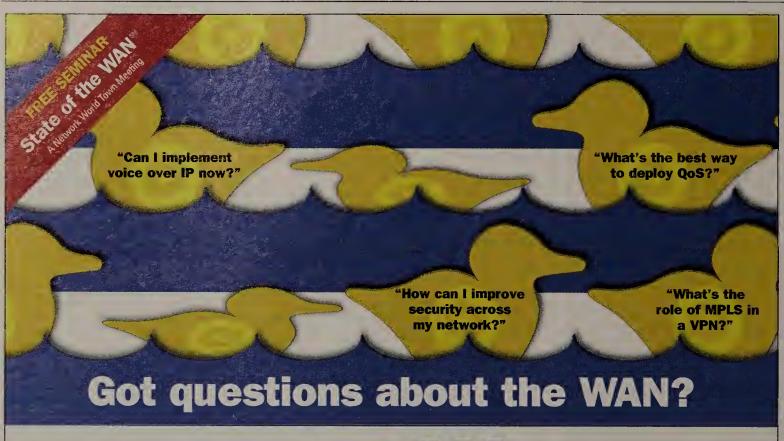
While event escalation procedures vary from customer to customer, the goal is the same for each managed security services provider: Keep customers' networks secure.

Analysts say outsourcing network security is a no-brainer for businesses that don't have the experience, expertise or resources to manage their firewalls correctly.

Caisse is a freelance writer living in Massachusetts. She can be reached at Kcaisse@gis.net.



- Determine what security services you want from a provider, and find a supplier willing to meet your conditions.
- Do a cost analysis.
- Listen to recommendations from your peers.
- 4. Make sure you're comfortable working with your security outsourcer as a partner.



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Join industry experts Dr. Jim Metzler, founder of Ashton, Metzler and Associates, John Gallant, president and editorial director of Network World, and Sandra Gittlen, events editor at Network World, for a focused discussion of the most pressing issues facing WAN managers today. Walk away with the knowledge you need to tackle VPNs, security, VoIP, quality of service, MPLS, network access and more.

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Where technology leaders answer to you.

Our guidelines for choosing what type of connection to use for VPNs will tell you how DSL stricks up against alternatives.

BY BRYANT DUNETZ

you need to connect 1,000 locations to a
WAN and minimize your network access
expenses in a secure, low-cost package, a
VPN might be the ticket.
Because VPNs use the Internet back-

Because VPNs use the Internet backbone to establish high-speed, secure links between telecommuter or branch offices and a corporate network, they're thought to be less expensive than other remote access networks. However, the intangible management costs may cloud the real savings.

You can find managed VPN services from a variety of carriers and ISPs, including AT&T, Genuity, Qwest, Sprint, Verizon and WorldCom. Managed services pricing varies depending on the type of network access, security and performance guarantees you're looking for, so the only real way to get a solid estimate is to issue a request for proposal outlining your needs.

Most managed VPN services provide fairly consistent features, including:

- •Access options ranging from 56K bit/sec to fractional/burstable T-1 and T-3 lines.
 - Remote dial access.
 - 24-7 VPN monitoring and management.
- Hardware-based encryption with full IP Security compliance.
- Data Encryption Standard and Triple-DES packet encryption.
 - MD5 and SHA-1 authentication.
 - Firewall.
 - Service-level agreement.
 - One integrated bill.

Putting it all together

DSL typically offers the lowest cost and most bandwidth for dedicated Internet connections, and is highly sought after for large VPNs.

ISDN is another popular technology for VPNs. ISDN is usually slower than DSL, but the service offers higher availability and a shorter installation time frame — 15 business days compared with 40 business days for DSL.

As is the case for any large network dispersed across the country or the globe, you'll probably have to rely on a combination of carriers and providers to meet your VPN needs. Finding a single company that can put it all together and make the VPN appear as a single, fully integrated and seam-

less network is most desirable.

Fueled by the availability of DSL and the growing ranks of telecommuters, the market for large VPNs has heated up in the past year. A mix of carriers, systems integrators and ISPs offer managed VPN services, the access portion of the network, or both.

However, don't count on getting DSL connections everywhere. Telco Exchange has conducted several hundred thousand prequalifications around the country and found that only 40% of those requests for DSL service resulted in availability and installation.

If you need to connect every one of your users or offices across the U.S., you'd better get serious about flat-rate ISDN, frame relay or T-1 alternatives. And while broadband cable services such as @Home or RoadRunner has been aggressively rolled out in the residential market, corporate America still overwhelmingly depends on carriers and ISPs for voice and data network services.

To get an idea of costs and features of various access services, see the chart below. For comparison purposes, we bundled DSL alternatives with Internet access to create a single monthly cost.

As you'll see, DSL is the hands-down winner when it comes to costs of connecting a small LAN to a VPN. ISDN, which is widely available

and offered at a flat-rate tariff in many areas, is likely the least expensive way to connect a single PC to a VPN.

However, frame relay is tops when it comes to the likelihood that you'll actually receive the service you ordered.

In the everlasting struggle to reduce costs and increase reliability, many IT executives are considering replacing their private lines with an IP-based VPN.

Dunetz is president of Telco Exchange, an online marketplace for high-bandwidth communications services. He can be reached at info@telco exchange.com.

Making connections

Follow these steps to line up the remote access portion of a VPN:

- 1. Prepare a list of all locations with local telephone numbers and complete addresses. Include the ZIP code and contact person if possible.
- 2. Set the minimum bandwidth requirements to support the applications that will be running over the VPN 128K to 1.544M bit/sec is common.
- 3 Decide on static IP or dynamic IP.
- A Choose an access service such as DSL, ISDN, Frame Relay or T-1.
- 5. Determine availability and delivery timetable for each type of service.
- 6. Review the results of the prequalification with pricing options.
- 7. Pick the preferred mix of technologies and costs to meet your project implementation plan and budget.



Here's how some popular network services for accessing a VPN compare. DSL is the least expensive option for a LAN, but you're also least likely to get it.

Data network service	Speed	Estimated chance of receiving the service	Line installa- tion fee	Equipment costs	Equipment instal- lation costs	Monthly cost (bundled with Internet access)
DSL	144K — 384K bit/sec	40%	Waived	Free	Waived	\$130 – \$200
ISDN single PC	128K bit/sec	80%	\$100	\$175	\$200	\$90 - \$130
ISDN LAN	128K bit/sec	80%	\$100	\$500	\$300	\$260 - \$500
Frame Relay	384K bit/sec	90%	Waived	\$1,500	\$500	\$800 - \$1,720

SOURCE TELCO EXCHANGE



Testers choice . David Newman

SEVEN-LAYER TEST TOOLS WANTED

few years back, when I was buying tests instead of running my own benchmarks, I asked a prospective supplier what tool it used to measure Ethernet switch performance. Its answer: Microsoft Word. I kid you not.

In one respect, this makes sense: A key issue with network devices is how

well they enhance productivity. So why not measure performance enhancement with an application end users actually run over the network?

I have two responses to that, one of which is unfit for a family publication. The other underlines how difficult — and how important — it is to correlate

network and application performance.

This approach would have given me a number, but I'd have no idea how much of that number was actually attributable to the switch we tested. Some unknown percentage of that number would have been due to extraneous factors such as network interface card hardware and drivers, disk I/O, IP stack, operating system and, of course, Word itself.

This entire approach would violate a cardinal rule of testing, which is to isolate one variable at a time.

And then there would be the issue of scale. Some Ethernet switches support many thousands of sessions. Scaling tests to that level would have meant using hundreds or thousands of PCs, with the attendant configuration and synchronization nightmares.

None of the foregoing should imply that I'm against application-layer testing. On the contrary, it's critically important. But with network device measurement, it's even more important to correlate application performance with lower-layer events in the network.

Consider the effects of TCP behavior. It's been estimated that 90% of TCP-based Internet traffic arrives out of sequence, leading to retransmissions and lost connections, which degrades application performance. But how much? The TCP state machine is complex, and most available tools don't correlate events at the transport and application layers.

This isn't just a problem for us testing types. The dearth of scalable seven-layer test tools makes it difficult for vendors and end users to get valid assessments of all kinds of devices with Layer 7 capabilities — boxes such as server load balancers, proxy caches and VPN gateways.

Fortunately, test equipment vendors are beginning to release seven-layer products. Spirent Communications is developing a tool called WebSuite. The first module tests firewalls by trying to open 10,000 TCP connections per second while launching a denial-of-service attack against the firewall. The tool reports on events at Layers 2 through 7.

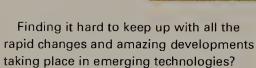
Another tool is WebAvalanche from Caw Networks. The vendor says this Web traffic generator can issue 15,000 Web requests per second and sustain 1 million concurrent TCP connections. I've worked with WebAvalanche, and while I can't go into details I can say Caw's claims, if anything, are understated. Better still, the Caw tool directly correlates behavior at Layer 3 through Layer 7.

It's good to see companies like Spirent and Caw taking up the seven-layer challenge, but they need company. What the industry really needs is more tools that measure the network — at all layers, not just up where Word lives.

Newman is president of Network Test, an independent benchmarking and network design consultancy in Westlake Village, Calif. He can be reached at dnewman@network test.com.

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Wireless, 10G Ethernet, MPLS hot in Atlanta

alerie Williamson,
president of Interop
Worldwide, says
wireless networking,
Multi-protocol Label
Switching (MPLS), and 10G
Ethernet will be the hot topics at NetWorld+Interop.

N+I is also partnering with Symbol Technologies and will deploy Wi-Fi wireless technology using Symbol's Spectrum24 high-rate wireless LAN infrastructure. The combination will support wireless registration and Internet access during the show, Williamson says. The show floor will feature wireless zones, where attendees can stay connected.

As for MPLS, Williamson says a section of the Interop-Net Labs will be devoted to that technology. In addition, dozens of exhibitors will be on hand to feature MPLS products.

In the 10G Ethernet realm, N+I has partnered with the 10-Gigabit Ethernet Alliance, which will have a pavilion on the show floor and will offer a half-day of free education on Wednesday.

NETWORLD +INTEROP ATLANTA 2001

be slumping, but if Net-World+ Interop 2001 in Atlanta is any indication, innovative network products are still being developed. More than 600 exhibitors will be displaying the latest in networking technology at the Georgia World Congress Center.

New show features include the eMobility Conference, and updated content for VPN Days and VoIP Days tracks. The show will include experts leading hundreds of workshops, tutorials and seminars. You can also check out N+I's InteropNet Labs program, which lets you get up-close and personal with the engineers developing the latest network technology.

So if you're heading to Atlanta, keep this planner handy to help you navigate through the myriad activities. We've pulled out some of the highlights from the weeklong event to make sure you get the most out of the show.

Monday Sept. 10

QoS in IP, MPLS, ATM, Gigabit LANs: The Big Picture

8:30 a.m. to 4:30 p.m. (repeats Tuesday, 8:30 a.m. to 4:30 p.m.)

As the IP network becomes key to business success, how do you know it's operating at top performance levels? This two-day tutorial will give you a few tips. François Fluckiger, head of Internet infrastructure at CERN, European Particle Physics Laboratory and birthplace of the Web, teaches this course that focuses on the different forms of quality-of-service control, from Differentiated Services and Research Reservation Protocol to Multiprotocol Label Switching. Which is best? Can they complement each other? Fluckiger will also talk about policy controls and how a network manager can best allocate network resources.

Network Architecture Principals

11 a.m. to noon

The IT department is no longer an island, For many companies, IT has become the linchpin that holds the business together. What does that mean for the network you manage? David Passmore, research director at The Burton Group, talks about what network managers can do to make sure networks are in line with business goals. He'll also teach you how to explain your network concerns to nontechie executives.

PICK OF THE DAY

Network Forensics Day

Monday, Sept. 10, 9 a.m. to 7 p.m.

There's no murder mystery here. Instead, this all-day seminar seeks to solve mysteries surrounding problems on your network. Join Bill Alderson, founder of network analysis firm Pine Mountain Group, and other PMG analysts to learn how to solve network problems using standards-based theory and cross-technology network analysis tools. PMG says, "Network Forensics methodology is to network analysis what DNA analysis is to criminology. It not only eliminates speculation and unnecessary costly 'false solutions' to network emergencies, but also changes the enterprise to a proactive environment."

The day starts with sessions detailing network architecture and analysis tools, followed by several case studies to put those lessons into real-life perspective. In the afternoon, sessions look at how you can analyze network performance when it comes to different protocols and applications, and how to identify network breaches and collect evidence when they happen.

The day closes with a network intelligence briefing that will include a panel discussion of the future of network analysis,

Tuesday Sept. 11

Train Wreck will & Luge 10:15 alm. to 11:15 alm

Products such as edge routers VPN tunnels firewalls and the like are proliferating, but do you really want to clutter the LAN/-WAN edge William Flanagan senior analyst at The Burton Group, Manickam Sridhar, CTO of Sirara Networks and Judy Beningson, director of product management for IP routing at Unisphere Tetworks, talk you through the expected evolution of edge services.

Service Delivery Platforms: Upstarts v Traditionalists 11:30 a.m. to 12:30 p.m.

New management platforms targeted for e-business are emerging to replace the timeconsuming, costly, less-than-perfect traditional platforms you're used to Which is better: the old or the new? Speakers on both sides will discuss their experiences to help you decide which is best for you. John McConnell, president of McConnell Associates, moderates the discussion. Speakers include Gale Persil, brand manager for Computer Associates; John Igoe, COO of Silver-Back Technologies; and Marty Hollander, vice president of marketing for ProactiveNet.

Best Practices in Outsourcing 1 p.m. to 2 p.m.

Outsourcing is nothing new, but what's all

the hype about application service providers, application infrastructure providers and the



John Igoe, founder, COO of SilverBack Technologies.

other xSPs? As IT infrastructure becomes more important to dayto-day business, outsourcing is gaining in stature. This session explores the future of outsourcing -- and what companies should look for John Gallant, president and editorial director of Network World, leads a panel discussion with Eric Good-

ness, director and principal analyst at Gartner IT Services; Jeffrey Kaplan, vice president of marketing and business development at InterOPS Management Solutions; John Igoc, COO of SilverBack Technologies, James Metzler, vice president of Ashton, Metzler & Associates; and Patricia Hatter, director of e-business professional services at AT&T Solutions. Speakers will discuss how to get the best



results for your business.

Applying Optical Technology to the Enterprise

2:45 p.m. to 3:45 p.m.

Sales of optical gear are down, but that doesn't mean companies are turning away from optical technology. This session looks at how some companies have jumped on the optical bandwagon and gone beyond tradition multimode Ethernet to take advantage of new optical technology. Deborah Mielke, president of Treillage Network Strategies/Tim Wu, technical marketing director at Riverstone Networks; and Doug Marquis, CTO of Malachite Technologies will talk about how the technologies are being put to use.

King of SAN: Fibre Channel, *IP Storage or InfiniBand?* 3:30 p.m. to 4:45 p.m.

Data is proliferating. Can your storage technology keep up? In this session panelists discuss technologies such as IP storage and InfiniBand in storage-area networks. Panelists include Doug Ingraham, manager of product management at Cisco; Bob Hansen, strategic business development manager at Agilent; Todd Matters, CTO at InfiniCon Systems; Brad Benton, technical relationship manager of Lane15 Software; Randy Fardal, vice president of marketing at Nishan Systems; Camden Ford, director of product marketing at Brocade; and Michael Karp, senior storage analyst at Enterprise Management Associates.

Wednesday Sept. 12

Building Directory Services for Enterprise and E-business Environments 8:30 a.m. to 4:30 p.m.



Daniel Blum, senior vice president and principal consultant at The Burton Group.

Get a handle on your directories. Daniel Blum, senior vice president and principal consultant at The Burton Group and Network World columnist, describes the hows and whys of integrating directories and running directory-enabled networks. Blum will use case studies to

explain how to integrate and migrate different directories and how to manage directory projects,

Migrating the Enterprise to the Internet Data Center — Is It Time? 10:15 a.m. to 11:15 a.m.

In a slow economy, network managers

are being forced to tighten their belts. Now may be the time to move some of your network's noncritical functions outside the corporation.

Worried about giving up control? Listen to some real-world examples of outsourcing that worked — and didn't from speakers Alistair Croll, CEO of Coradiant; Trey Smith, CTO at Cable & Wireless; and Andrew Schroepfer, president of Tier 1 Research.

Virtual Leased Lines — So Many Choices 11:30 a.m. to 12:30 p.m.

Leasing physical lines can be costly. Virtual leased lines can give you the bandwidth you need without the expense. But what technology is best: frame relay, ATM or IP-based VPNs? Speakers Keith Falter, global enterprise markets director AT&T Business at AT&T; David Messina, director of product management at CoSine Communications; Drew Savage, senior product manager at Avaya; and Lynn DeNoia, clinical professor of computer science at Rensselaer, discuss the pros and cons of virtual leased lines, from quality of service and security to costs.

☞ PIGK OF THE DAY

EMobility Conference

10:15 a.m. to 5 p.m., Wednesday, Sept. 12, and 10:15 a.m. to 4:15 p.m., Thursday, Sept. 13

With more employees carrying wireless devices these days, it's up to the network manager to decide how to make wireless work for business. This two-day conference is all about making wireless work for you. Choose from two tracks less technologies and wireless applications.

Technology sessions will touch on everything from wireless personal-area networks (limitedrange wireless devices functioning with technologies such as Bluetooth and HomeRF) and fixed wireless networks to new technologies to speed wireless throughput. Follow the applications track and you'll learn how to install a wireless network that handles the content you need, what the security options are when it comes to wireless, and how best to access content from wireless devices.

Speakers include wireless industry analysts. ireless vendors and industry group leaders. La: year, a survey found that 74% of N+1 attendees predicted wireless applications, products and services would have significant impact on their companies' communications systems, and 71% said wireless would make their businesses more productive. This conference will help you sort out where your company should be heading when it comes to working without wires.

Wednesday Sept. 12

The New Server — Smaller. Faster and Less Hungry

2 p.m. to 3:15 p.m.

Blade servers, those compact processing powerhouses, are all the rage. What else can companies look at to reduce power consumption and data center space demands while maintaining the service levels they need? Listen to Sally Stevens, director of density optimized servers for Compaq; John Lawler, director of e-business infrastructure at Infonetics Research; Vern Brownwell, CEO and founder of Egenera: and Hooman Beheshti, CTO of StrataServe. as they discuss what's ahead in power technology and what that means for your data centers.

How to Choose a Managed Security Provider

3:30 p.m. to 4:45 p.m.

A big concern in outsourcing is security. Jude O'Reilley, director of services marketing at Aventail, and Ron Hale, vice president of professional services at Telenisus, discuss what companies should look for in a managed security provider. If shopping for a managed security provider, find out what to ask to make sure security will be one thing you won't have to worry about.

Thursday Sept. 13

2.5 G and 3G Cellular **Technologies**

10:15 a.m. to 11:15 a.m.

Wireless is the future. The questions are "When is wireless coming?";"What are the rollout plans?"; and "What standards (and vendors) will be the winners?* Network World Senior Reviews Editor and mobile computing e-mail newsletter author Keith Shaw moderates a panel discussion that aims to answer these questions and more, such as what network managers must do to integrate 2.5G and 3G into their systems.

Panelists include Juha Lappalainen, director of mobility systems for Nokia Networks, and Jim Takach, director of Advanced Programs for the CDMA Development Group.

IP-Enabled Customer Contact Centers/Call Centers

11:30 a.m. to 12:30 p.m.

Customers are computer savvy, and your company's call

center has to be a set digegrated voice daily capabilities are notified each bit increasingly capabilities are not the word increasing call centers at the notations with the call you was based applications. It is call you specified the same of the converges, and Leonard to the converges, and Leonard to the converges and the converges and the converges are converged to the converge call center technology.

PKI Showdown

3:30 p.m. to 4:45 p.m.

Who's the best when it comes to organ security? Public-key infrastructure (PKI) ven dors and certificate authentication yendors ge head-to-head in this session to explain why their service is better

> The scenario involves a request for. proposal for a PKI service for an e business consortium of 100 to 400 organizations that requires 2,000 client certificates.

Speakers are Bill McQuaid, vice president of product marketing at RSA Security and John O Sullivan executive vice president of engineering at Baltimore Technologies.



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Management

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Getting a new business off the ground

Self-employed IT pros lay out the rules for running a successful venture.

BY DREW ROBB

or those considering going it alone, about to take the plunge or struggling to get a business off the ground, here are some tips from some who've left the corporate world and lived to tell the tale.

1. Avoid debt.

For some reason, people think you're supposed to go into debt to set up your own business. You leave a job, visit the bank manager, secure a small business loan and spend \$50,000 or more on furniture, equipment, letterhead, Yellow Pages listings and perhaps even a new car. The catch is that you're in a state of anxiety from day one, as a result of the high monthly payments and low levels of income that often plague a start-up.

Michael Patterson, formerly a network operation center manager for Cabletron, took out a second mortgage and put \$15,000 on a credit card to start Somix Technologies, a network management firm in Sanford, Maine. "Due to debt pressure and lack of immediate income, I was a nervous wreck for the first few months until the company took off," he says. "I began to have doubts about the sanity of leaving a well-paid job, and I'm just glad I had the sense to avoid further debt."

So what's the right way? It's simple: Don't spend more than you make. If your business isn't generating enough funds for fancy brochures, make do with something less expensive. If you don't have clients visiting, don't bother with decent office furniture. Even if clients will visit and a good image is essential, go secondhand or do-it-yourself.

Of course, there are some businesses that require an inventory and expensive equipment. If you really want to go in that direction, use caution. Carefully consider the weight of the debt and do your homework well. My advice? Skip it unless you already own the equipment and have enough stock to get started.

2. Deliver good service.

Most self-employed IT professionals agree that good service is crucial. "I consider a client like a wife or family member — their wishes are paramount," says Hamid Azar of Tarzana, Calif. Previously employed at Micron Electronics, he founded Azar-PC and specializes in custom-built computers for businesses.

He reckons he's lost plenty of orders after prospects visited his tiny office. "People are right to be



suspicious, as I don't compare well against one of the established vendors," Azar says. "That's why you have to work doubly hard at service so they never think of going elsewhere."

3. Make money.

Without service, money-making efforts will eventually come to naught. But without attention to income, good service is usually wasted. So get your name out there any way you can. Promote on any and all possible channels and get some money coming in.

"Many new businesses fail due to lack of interest generated," says Elan Barram of Clearwater, Fla. After working as an IT manager for CDB Infotek in Tustin, Calif., he started Barram Software and works as a consultant for large corporations. "The only way to expand is to promote yourself and your services using any means at your disposal," he says.

For those with some reserves, that might mean a few advertisements, a newsletter or a small tradeshow booth. But initially, there might only be funds for calls and letters. The point is to use your resources wisely to let people know that you exist and are available for hire.

4. Manage yourself.

If you think self-employment means freedom from management, you're in the wrong place. Not only do you have to become your own manager, you have to do a fine job of it, too. Keep weekly or monthly graphs of your key statistics and monitor them, work out monthly quotas and create lineups to ensure you meet them.

"I always keep tabs of my income and delivery to make sure it is heading in the right direction," Barram says.

5. Study.

While you may be an expert right now, you won't stay that way for long if you don't update your skills. Keep current at the very least by reading trade publications or attending conferences.

Azar visits several chat rooms where he stays abreast of new gear his customers might request. Adam Watts, founder of technical documentation firm Phoenix Communications in Sacramento, Calif., recently became a Microsoft Certified Systems Engineer to improve the value of his services.

And Patterson diligently reads trade publications such as *Network World* and *Business Communications Review* to stay current on industry trends and his competitors.

6. Put in the hours.

If you follow the rules above, you have a good chance of success — but only if you put in the time. The danger point for new businesses is within the first year or two, when many are likely to fail. Be prepared to work very hard in your early days just to stay afloat.

The good news, though, is that if you make it through the trial by fire, the rewards are awesome. You can earn big money and still have time for family, friends and hobbies.

Robb is a freelance writer in Los Angeles who specializes in technology issues.



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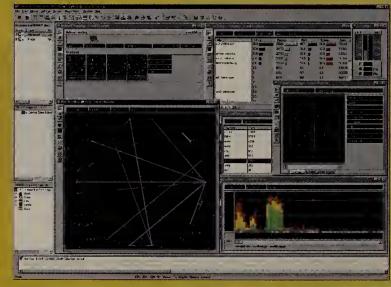
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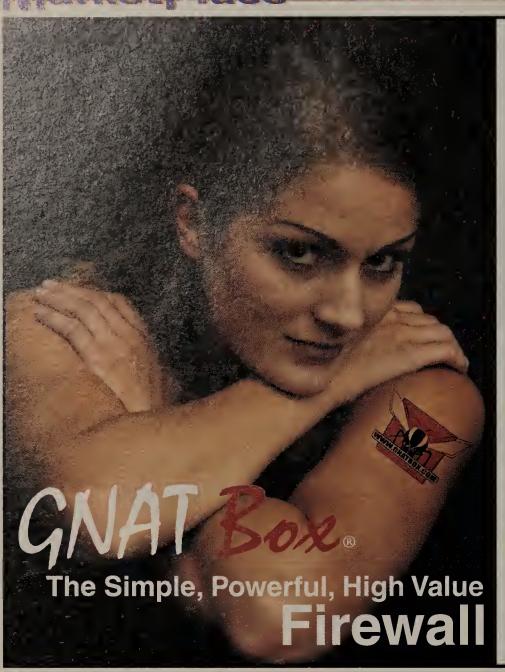
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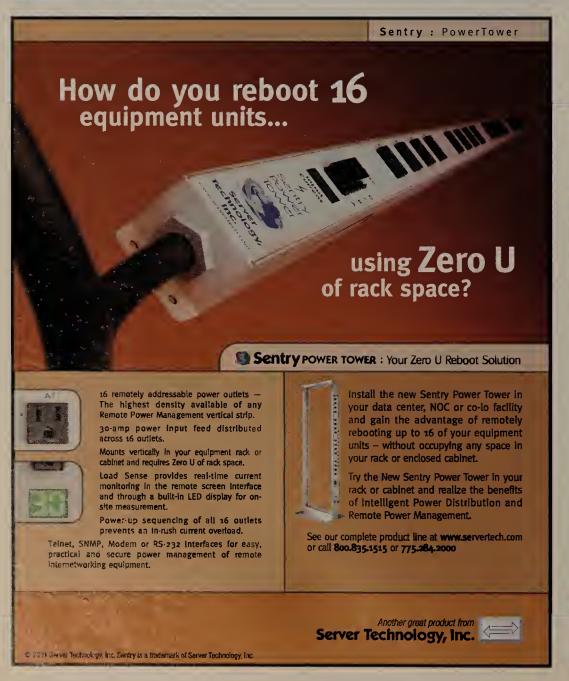
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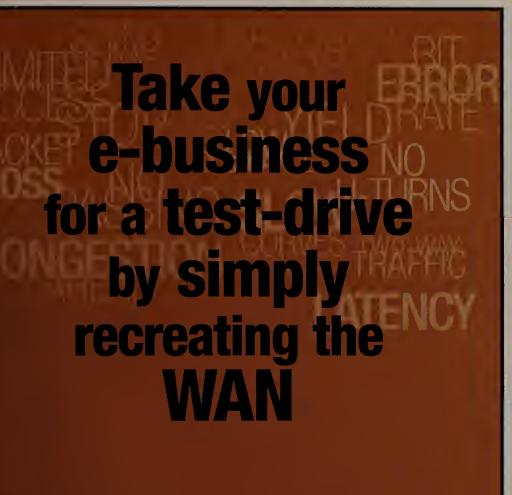


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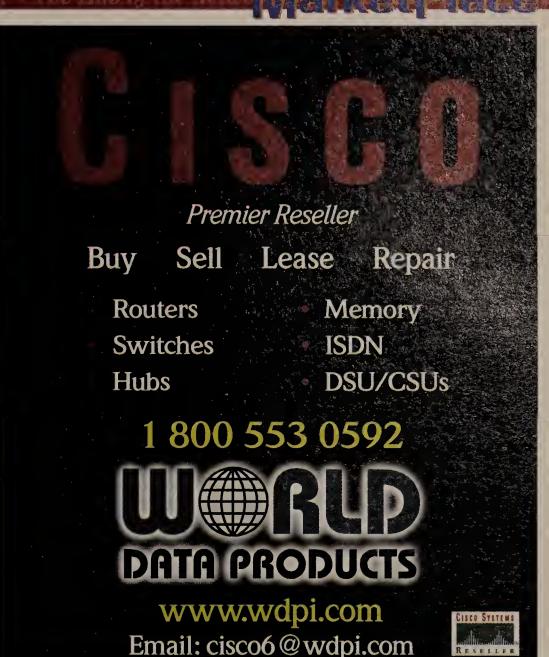
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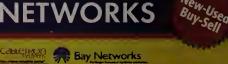
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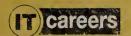
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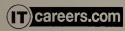
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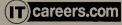
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Surgient, continued from page 1

merges the storage-area network (SAN) world with content delivery and Web serving. While this is a fresh approach, the start-up is going up against much more established competitors in all of the product areas it touches.

"Surgient has collapsed a whole bunch of independent components that are all interrelated in a network into one performance-oriented box," says Steve Duplessie, an analyst with Enterprise Storage Group. "That means they can specifically make an application perform a task better but from a user's perspective, it makes management of that complex set of distributed elements easier."

Named one of Network World's 10 Start-ups to Watch earlier this year, Surgient is tapping into a rapidly growing market. Research firm IDC predicts that industry revenue from content delivery will increase from \$513.9 million in 2000 to \$4.5 billion in 2004.

While the eQ2500 can be optimized to handle a variety of data — HTTP, network-attached storage (NAS) files, SAN, rich media and cached data - the first application Surgient will support is streaming.

Surgient will rely on partnerships with vendors to pro vide streaming software that runs on the eQ2500. When Surgient adds caching, rich media and load-balancing applications in the next few months, it also will use software from other companies. Surgient would not disclose which companies it will part-

Integration services needed

The Surgient device will require integration services to tie the software and hardware together and balance the application for optimal performance. For instance, a streaming application would be given more processing power and less transport and session management capabilities to set up connections, because streaming uses connections that stay up longer than those of other applications.

The eQ2500 most often will fit between a router and Web servers, taking the place of the various caching, load-balancing and acceleration devices, as well as content servers, that would be deployed in a Web infrastructure.

While the new device has functions that overlap with Web switches, Surgient says high-end

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Web switches could still be used in large data centers, balancing loads among a set of eQ2500s and Web servers.

Storage arrays attach to a 2Gbit/sec Fibre Channel interface on the eQ2500, and networks attach via 10/100/1000M bit/ sec Ethernet. Surgient will also support optical carrier links such as SONET for WANs, as well as iSCSI for transport of data over IP networks.

The eQ2500 contains a switch fabric between four application processing blades and three storage, transport and network blades. Applications such as load balancing, caching and streaming run concurrently on the four application blades.

"With the dot-com crash, our industry faces a glut of data center space, most of which is unused," says Cliff Luckey, vice president of engineering and data center operations at Interland, a Web hosting company in Atlanta that is testing the Surgient box.

"The companies that are going to move forward are the companies that can scale, be extremely efficient and can rent space for the largest amount of hosting revenue per square foot," he says. "To be laser-focused, we're looking at the Surgient architecture because it reduces data center costs and delivers unprecedented levels of performance. The enterprise data center faces the same problem."

The cQ2500 ships with Web-based management software loaded on another blade. Code-named eQoS, the software lets IT professionals enforce policies, service-level agreements and per-session usage — functions that formerly would have been handled separately with a different management package for each device.

"In the enterprise, we could charge different departments for a different quality of service or experience," Luckey says. "We can do that with a single management package instead of the hundreds of different packages that normally ship with caching, streaming or traffic management software."

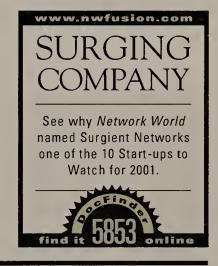
EQoS also handles the configuration and personality of the device. Logging and filtering can occur without affecting the performance of the box, and users can configure resource utilization based on applications, traffic volume and prioritization of users.

Surgient competes with BlueArc in the NAS arena, with Network Appliance in caching, and with Digital Fountain in streaming, the company says.

A follow-on product, the eQ4500, will be a larger, chassis-based device for service providers, one that can be expanded with additional blades. Surgient would not comment on its availability.

The eQ2500 is \$90,000; eQoS management software sells separately for \$35,000. Both will be available in the fourth quarter of 2001.

Surgient Networks: www. surgient.com



Smart switching

Surgient's multifunction content switch, the eQuilibrium 2500, boasts:

- Four application blades for I/O-bound applications such as caching, acceleration, traffic-management and load-balancing.
- · A network blade with Gigabit Ethernet or optical capability.
- · A management blade.
- A switch fabric with gigabit throughput to link the application blades and other blades.
- A storage blade with Fibre Channel or iSCSI capability.
- Support for 2,048 permanent virtual circuits.

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Cisco, continued from page 8

screen. Unity's text-to-speech engine can also translate e-mail text into a computer-generated voice, which reads e-mails to users over a phone.

The state of Connecticut will roll out Cisco Unity 3.0 and Exchange 2000 during the next several weeks. The Cisco/ Microsoft combination will serve 1,000 employees in the state's 62 agencies, says Rock Regan, the state's CIO.

'This will allow our employees, regardless of where they are, to deal with all kinds of messages from one system," Regan says of the Unity server. Besides giving state employees a new productivity tool, Regan adds that the ability to standardize on one system for voice mail and e-mail, and manage both messaging technologies from one directory, was a major reason for going with unified messaging.

Connecticut's Department of Information Technology installed a Cisco AVVID voiceover-IP system a year ago, and was using Cisco's Unified Open Network Exchange voice mail-only product to support about 600 IP phone users, according to Bob Dixon, director of enterprise networking for the state.

"We decided not to spend any time or money on the previous version [of Unity] because of where we're going on our other server initiatives," including Win 2000 server and Exchange 2000, Dixon says. "Because [Unity] is a similar product to what we had before, the risk is a lot lower."

With 70% of the enterprise switching market under its thumb and the top spot in terms of IP phone shipments so far this year (according to market research firm IDC and Cahners In-Stat), Cisco is looking to use its hefty influence in converged IP networks by pushing applications such as unified messaging, personal organization software (such as its Personal Assistant product) and call center applications into large companies.

According to IDC, the number of unified messaging user mailboxes will boom over next few years, going from 3.1 million mailboxes installed this year to 21.7 million mailboxes by 2005.

Robert Mahowald, a senior analyst at IDC, says Cisco can be a factor in the market if it can focus on selling IP telephony and messaging software differently from how it markets routers and switches.

"I'm not sure if Cisco salespeople know how to sell software," he says. "They're new to software. While the idea of unified messaging is great for Cisco's business, they have to learn more about how this firs into the overall enterprise puzzle."



IT/users should learn to play nice

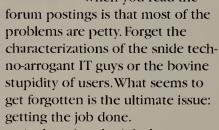
have a theory. The major reason why there is often great tension between IT and the user population is because users don't understand IT and what it does, so IT becomes isolated within the corporate culture.

In recent issues of *Network World* we have had articles about "What end users hate about you" (www.nwfusion.com, DocFinder: 5847) and "What end users love about you" (www.nwfusion.com, DocFinder: 5748) and it seems that you, dear reader, have exposed nerves.

In a Network World Fusion forum that erupted from the first story, much has been revealed about the relationship of users and IT staff and the attitudes that drive the environment. There are com-

plaints from users about the quality and timeliness of IT's services, their attitudes and their competency. IT's riposte is that users are ignorant about technology, unwilling to be responsible for their use of PCs and need a good slap upside the head.

What comes across when you read the

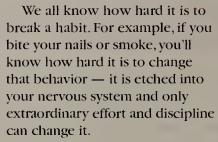


MARK

GIBBS

And getting the job done can be accomplished the hard way with angst and tension — or the less hard way — with humor and a feeling of common purpose (there is no "easy way" once you leave kindergarten).

The only thing that can create what I think of as a healthy IT/user environment is developing a corporate culture that behaves rationally and appropriately where PCs and networks are concerned. The trouble is that for many of us, our organizations are not young and malleable — they are middle-aged or even old and, to a greater or lesser degree, set in their ways so making change happen can be an uphill struggle.



So it is with companies. They get set in their ways and to get them to stop doing the equivalent of biting their nails is very, very difficult, even when times are hard and change is inevitable.

Sometimes companies have the equivalent of emotional problems — and that is the nature of the problem when there's a rift between users and IT. This kind of schism leads to IT having a tendency to focus on maintaining the status quo rather than the bigger picture of enabling the evolution of the company.

What much of it comes down to is communication. At the heart of the problem is usually the issue that the work of IT is considered to be too "techie" for users to understand. But this can be solved. I suggest you establish an IT council of users and IT staffers that meets at least monthly to identify what problems have been seen and how they can be fixed. Then the council should send all staff members a brief summary of what has been done and what needs to be done.

If this is done through a mailing list or a Web log then users can comment and participate. And here's where a few ringers can be used. All you need are one or two "IT groupies" who, without being too gushing in their praise, can act as a positive influence on what will hopefully become an ongoing dialog. But note that if IT gets criticized in this open forum then IT has to take it on the chin and resolve the issue.

Once IT is demystified and a workable, respectful relationship is established between IT and the users, then everyone can get on with getting the job done and making money. Is that a good theory or what?

Critiques to unvcolumu@gibbs. com.



Time for another encore presentation of "Letters to 'Net Buzz."

Predictable umbrage was generated by an item suggesting that the most recent court ruling on the **Microsoft** antitrust business signals the beginning of the end for that case.

"Perhaps you ought to actually read the ruling rather than just the press releases of Microsoft and its allies," huffs Lance Groth. "Microsoft is far from off the hook. The Court of Appeals upheld most of the major antitrust findings... The breakup order was vacated only on technicalities and for reconsideration in light of the Appeals Court findings.



PAUL MCNAMARA

"Stick to an honest assessment of the facts, please — don't toady up to Microsoft; they're not deserving of it."

Toady has always been one of my favorite insults.

Some of you read this stuff a lot more carefully than I write it. Robert Fenstermacher illustrates through his observation about a Buzz interview with Sprint executive Frank Denap detailing that company's Digitally Enhanced Network Appliance Project (read: an office robot).

"What I want to know is if Denap will look you in the eye and insist that he did NOT name their Digitally Enhanced Network Appliance Project after himself."

Well slap my forehead. Of course, DENAP.

News that **Zaplet** — an e-mail/collaboration tool and Buzz favorite — will no longer be free brought this lament from a reader who has found the product ideal for swapping digital photos with his sister who lives overseas.

"I know that one reason all those dot-com companies failed is that either they had no product or service, or were giving them away," writes Allen Maser. "And, given the utility I found in Zaplet, I wish them well.

"However, I'd think there'd be a way they can sell their product to large corporations, while maintaining the freebie for us little guys. Or perhaps, even charge me a few dollars a month for that portion of Zaplet that I use."

The trouble for companies like Zaplet is most people don't want to pay at all.

Yours truly took a round of boos for agreeing with the **Major League Baseball** executives who decided it is time for fans to start paying to hear games broadcast over the Internet.

"It just seems that MLB is shooting itself in the foot in an attempt to squeeze what's left out of the fans," counters **Ed Martz**. "No other business could survive this kind of stuff."

And there was this take:

"Sorry, Buzz, but you picked the wrong example for arguing that the 'good stuff' will disappear from the 'Net unless people begin to pay for it," writes Mark Heider. "These affiliate radio stations may broadcast their signal over the airwaves when covering games, but for whatever reason 'broadcasting' over the 'Net is considered somehow different.

"The listeners in either medium hear exactly the same broadcast, and at the same time, and are therefore functionally equivalent. The only significant difference is that the 'Net broadcast has the potential to reach a much larger geographic area."

Which, of course, is exactly why Major League Baseball felt the need to start charging.

Other readers seem to be not only resigned to the inevitability of the Internet's free ride ending, but are actually looking forward to the day.

"Once people get over this idea that everything has to be free, maybe we'll get back to a Web that is more than just a place to look at ads," writes John Gorentz. "

Buzz is on paternity leave, but you can still send comments to buzz@nww.com.



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